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FIRST QUARTER 1992 GROUND WATER SAMPLING RESULTS LIVINGSTON RAIL YARD LIVINGSTON, MONTANA





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#### Submitted to:

Montana Department of Health and Environmental Sciences Cogswell Building Helena, Montana 59620

# Submitted by:

Burlington Northern Railroad Co. 9401 Indian Creek Parkway Overland Park, Kansas 66201

Prepared by:

Envirocon, Inc. 101 International Way P. O. Box 8243 Missoula, Montana 59807

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#### 1.0 INTRODUCTION

This report presents the results of ground water samples taken during January, February, and March 1992 at the Livingston Rail Yard (LRY), in Livingston, Montana. Ground water sampling during this period consisted of the January monthly sampling round, the February semiannual sampling round, and the March monthly sampling round.

#### 2.0 RESULTS

The results for the three sampling events are presented separately below.

# 2.1 <u>January 1992 Ground Water Sampling Results</u>

One ground water sample was collected at Monitoring Well LG-10 and two samples (one duplicate) were collected at Monitoring Well 89-2 on January 21, 1992. The B-Street Municipal Well was not sampled because it was not operating during January 1992. The samples were analyzed for chlorinated volatile organic compounds (VOCs) by EPA Method 601 at Energy Laboratories, Inc. The analytical results and a data validation report for this sampling round are included in Appendix A. No chlorinated VOCs were detected in the sample from Monitoring Well 89-2. As shown in the results in Appendix A, a concentration of 0.5 parts per billion (ppb) of 1,1,1-trichloroethane (1,1,1-TCA) was detected in Monitoring Well LG-10. The detection limit for 1,1,1-TCA is 0.5 ppb. This is the first time 1,1,1-TCA has been detected in any of the monitoring wells. 1,1,1-TCA is not detected in the ground water around any of the LRY VOC sources. Monitor Well LG-10 is located in downtown Livingston and is not downgradient from any LRY VOC sources.



#### 2.2 February 1992 Ground Water Sampling Results

The February 1992 semiannual ground water sampling round was conducted on February 25 through March 3, 1992. Forty-six samples were analyzed as part of this event: forty samples were collected at monitoring and private wells located within and around the LRY, five samples were trip blanks, and one sample was an equipment blank. All samples were analyzed for VOCs by EPA Method 524.2 and total petroleum hydrocarbons (TPH) by EPA Method 418.1, except for the trip and equipment blanks, which were analyzed by EPA Method 524.2 only, and the sample from Monitoring Well LS-7, which was analyzed by EPA Method 418.1 only. In addition, analyses for major ions were conducted on three samples. Tables 1, 2, 3, 4, and 5 summarize the analytical results for tetrachloroethene (PCE), trichloroethene (TCE), cis-1,2-dichloroethene (DCE), chlorobenzene, and TPH. Laboratory analytical results and a data validation report for this sampling round are included in Appendix B.

As shown on Tables 1 through 5, most February 1992 sample results are consistent with results from the previous three quarterly sampling rounds. Monitoring Wells 2 through 5 all showed PCE detections ranging from 0.52 to 1.1 ppb. These detections occur in the anomalous area south of the LRY and are the first PCE detections recorded at these wells in several sampling rounds. The cause of these detections is uncertain because of the very low levels of detection. Monitoring Wells 1 and 4 will be resampled during May 1992.

Monitoring Well 92-1 was installed during February 1992, approximately 100 feet downgradient from the Locomotive Shop manway soil vapor extraction (SVE) system. This well was sampled during the February 1992 semiannual sampling round to provide a baseline VOC concentration for evaluating the



Table 1: Tetrachloroethene Analytical Results for Ground-Water Samples Collected During the May 1991, August 1991, November 1991, and February 1992 Sampling Rounds, Livingston Rail Yard, Livingston, Montana.

Chemical Parameter: Tetrachloroethene Units: ug/L

		1991		1992
Monitoring	May	August	November	February
Well	Quarterly	Quarterly	Quarterly	Quarterly
1	< 0.5 B	< 0.5 B	1.4 B	0.86 B
2	< 0.5 B	< 0.5 B	< 0.5 B	1.1 B
3	-	< 0.5 B	< 0.5 B	0.72 B
4	< 0.5 B	< 0.5 B	< 0.5 B	1.0 B
5	< 0.5 B	< 0.5 B	< 0.5 B	0.52 B
6	4.0 A	4.2 B	3.2 B	1.5 B
7	29.0 B	< 0.5 B	< 0.5 B	4.0 B
8	110.0 B	64.0 B	46.0 B	79.0 B
89-1	17.0 B	2.2 B	1.8 B	9.6 B
89-10	•	89.0 B	-	116.0 B
89-11	< 0.5 B	_ < 0.5 B	< 0.5 B	< 0.5 B
89-2	< 0.5 B	< 0.5 B	< 0.5 B	< 0.5 B
89-3	310.0 B	410.0 B	280.0 B	180.0 B
89-4	330.0 B	180.0 B	210.0 B	240.0 B
89-6	38.0 B	29.0 B	18.0 B	21.0 B
89-7	18.0 B	25.0 B	18.0 B	20.0 B
89-9	250.0 B	220.0 B	190.0 B	200.0 B
90-3	60.0 B	14.0 B	11.0 B	12.0 B
92-1	-	-	•	850.0 B
L-87-1	< 0.5 B	< 0.5 B	< 0.5 B	< 0.5 B
L-87-2	< 0.5 B	< 0.5 B	0.83 B	2.2 B
L-87-3	170.0 B	94.0 B	130.0 B	140.0 B
L-87-4	< 0.5 B	< 0.5 B	< 0.5 B	< 0.5 B
L-87-5	-	260.0 B	160.0 B	150.0 B
L-87-7	< 0.5 B	< 0.5 B	< 0.5 B	< 0.5 B
L-87-8	12.0 B	41.0 B	< 0.5 B	16.0 B
L-88-10	86.0 B	89.0 B	65.0 B	115.0 B
L-88-12	140.0 B	290.0 B	130.0 B	120.0 B
L-88-13	41.0 B	64.0 A	22.0 B	19.0 B
LG-10	< 0.5 B	< 0.5 B	< 0.5 B	< 0.5 B
LS-10	-	< 0.5 B	-	< 0.5 B
LS-11	64.0 B	45.0 B	8.0 B	38.0 B
LS-6	< 0.5 B	< 0.5 B	< 0.5 B	1.4 B
LS-7	-	< 0.5 B	-	-
LS-8	110.0 B	59.0 A	40.0 B	74.0 B
POTW	77.0 B	38.0 B	21.0 B	33.0 B



Table 2: Trichloroethene Analytical Results for Ground-Water Samples Collected During the May 1991, August 1991, November 1991, and February 1992 Sampling Rounds, Livingston Rail Yard, Livingston, Montana

Chemical Parameter: Trichloroethene Units: ug/L

		1991		1992
Monitoring	May	August	November	February
Well	Quarterly	Quarterly	Quarterly	Quarterly
1	< 0.5 B	< 0.5 B	< 0.5 B	< 0.5 B
2	< 0.5 B	< 0.5 B	< 0.5 B	< 0.5 B
3	-	< 0.5 B	< 0.5 B	< 0.5 B
4	< 0.5 B	< 0.5 B	< 0.5 B	< 0.5 B
5	< 0.5 B	< 0.5 B	< 0.5 B	< 0.5 B
6	< 0.5 B	< 0.5 B	< 0.5 B	< 0.5 B
7	1.5 B	< 0.5 B	< 0.5 B	< 0.5 B
8	8.1 B	4.5 B	1.5 B	3.5 B
89-1	0.6 B	< 0.5 B	< 0.5 B	< 0.5 B
89-10	-	8.1 B	•	7.8 B
89-11	< 0.5 B	< 0.5 B	< 0.5 B	< 0.5 B
89-2	< 0.5 B	< 0.5 B	< 0.5 B	< 0.5 B
89-3	0.53 B	1.6 B	< 0.5 B	0.58 B
89-4	3.2 B	4.3 B	6.0 B	5.9 B
89-6	0.8 8	1.0 B	0.8 B	0.67 B
89-7	2.6 B	1.4 B	1.8 B	1.9 B
89-9	8.2 B	13.0 B	6.9 B	6.1 B
90-3	7.3 B	9.6 B	4.1 B	3.0 B
92-1	-	-	-	0.76 B
L-87-1	< 0.5 B	< 0.5 B	< 0.5 B	< 0.5 B
L-87-2	20.0 B	7.2 B	17.0 B	12.0 B
L-87-3	13.0 B	11.0 B	10.0 B	12.0 B
L-87-4	< 0.5 B	< 0.5 B	< 0.5 B	< 0.5 B
L-87-5	-	12.0 B	8.0 B	5.8 B
L-87-7	< 0.5 B	< 0.5 B	< 0.5 B	< 0.5 B
L-87-8	4.0 B	12.0 B	5.9 B	7.0 B
L-88-10	19.0 B	21.0 B	18.0 B	16.0 B
L-88-12	4.0 B	2.8 B	5.6 A	2.7 A
L-88-13	6.3 B	14.0 B	7.7 B	5.0 B
LG-10	< 0.5 B	< 0.5 B	< 0.5 B	< 0.5 B
LS-10	-	< 0.5 B	-	< 0.5 B
LS-11	12.0 B	17.0 B	9.3 B	8.8 B
LS-6	< 0.5 B	< 0.5 B	< 0.5 B	< 0.5 B
LS-7	•	< 0.5 B	•	•
LS-8	14.0 B	7.4 B	3.7 B	13.0 B
POTW	7.6 B	2.2 B	< 0.5 B	2.3 B
				<del>-</del>



Table 3: Cis-1,2-Dichloroethene Analytical Results for Ground-Water Samples Collected During the May 1991, August 1991, November 1991, and February 1992 Sampling Rounds, Livingston Rail Yard, Livingston, Montana.

Chemical Parameter: cis-1,2-Dichloroethene Units: ug/L

		1991		1992
Monitoring	May	August	November	February
Well	Quarterly	Quarterly	Quarterly	Quarterly
1	< 1.0 B	< 1.0 B	< 1.0 B	< 1.0 B
2	< 1.0 B	< 1.0 B	< 1.0 B	< 1.0 B
3	•	< 1.0 B	< 1.0 B	< 1.0 B
4	< 1.0 B	< 1.0 B	< 1.0 B	< 1.0 B
5	< 1.0 B	< 1.0 B	< 1.0 B	< 1.0 B
6	< 1.0 B	< 1.0 B	< 1.0 B	< 1.0 B
7	3.8 B	< 1.0 B	< 1.0 B	< 1.0 B
8	13.0 B	7.6 B	1.2 B	< 1.0 B
89-1	1.1 B	< 1.0 B	< 1.0 B	< 1.0 B
89-10	-	20.0 B	-	20.0 B
89-11	< 1.0 B	< 1.0 B	< 1.0 B	< 1.0 B
89-2	< 1.0 B	< 1.0 B	< 1.0 B	< 1.0 B
89-3	< 1.0 B	< 1.0 B	< 1.0 B	< 1.0 B
89-4	3.3 B	1.8 B	16.0 B	13.0 B
89-6	< 1.0 B	3.1 B	< 1.0 B	< 1.0 B
89-7	< 1.0 B	< 1.0 B	1.8 B	< 1.0 B
89-9	1.6 B	1.6 B	1.3 B	< 1.0 B
90-3	35.0 B	33.0 B	7.7 B	3.8 B
92-1	-	-	-	4.5 B
L-87-1	< 1.0 B	< 1.0 B	< 1.0 B	< 1.0 B
L-87-2	320.0 B	770.0 B	440.0 B	380.0 B
L-87-3	50.0 B	25.0 B	16.0 B	57.0 B
L-87-4	< 1.0 B	< 1.0 B	< 1.0 B	< 1.0 B
L-87-5	-	4.4 B	3.0 B	1.9 B
L-87-7	< 1.0 B	< 1.0 B	< 1.0 B	< 1.0 B
L-87-8	1.5 B	4.8 B	16.0 B	12.0 B
L-88-10	180.0 B	230.0 B	200.0 B	184.0 B
L-88-12	1.7 B	1.2 B	2.6 A	1.3 B
L-88-13	5.0 B	39.0 A	38.0 B	14.0 B
LG-10	< 1.0 B	< 1.0 B	< 1.0 B	< 1.0 B
LS-10	-	< 1.0 B	•	< 1.0 B
LS-11	57.0 B	93.0 B	54.0 B	73.0 B
LS-6	< 1.0 B	< 1.0 B	< 1.0 B	< 1.0 B
LS-7	-	< 1.0 B	-	-
LS-8	110.0 B	20.0 B	6.7 B	78.0 B
POTW	38.0 B	5.0 B	< 1.0 B	4.6 B



Table 4: Chlorobenzene Analytical Results for Ground-Water Samples Collected During the May 1991, August 1991, November 1991, and February 1992 Sampling Rounds, Livingston Rail Yard, Livingston, Montana.

Chemical Parameter: Chlorobenzene Units: ug/L

		1991		1992
Monitoring	May	August	November	February
Well	Quarterly	Quarterly	Quarterly	Quarterly
	4.0.5	4.0.0	. 4 0 5	. 1 0 5
1	< 1.0 B	< 1.0 B	< 1.0 B	< 1.0 B
2	< 1.0 B	< 1.0 B	< 1.0 B	< 1.0 B
3		< 1.0 B	< 1.0 B	< 1.0 B
4	< 1.0 B	< 1.0 B	< 1.0 B	< 1.0 B
5	< 1.0 B	< 1.0 B	< 1.0 B	< 1.0 B
6	< 1.0 B	< 1.0 B	< 1.0 B	< 1.0 B
7	< 1.0 B	< 1.0 B	< 1.0 B	< 1.0 B
8	< 1.0 B	< 1.0 B	< 1.0 B	< 1.0 B
89-1	< 1.0 B	< 1.0 B	< 1.0 B	< 1.0 B
89-10	-	< 1.0 B		< 1.0 B
89-11	< 1.0 B	< 1.0 B	< 1.0 B	< 1.0 B
89-2	< 1.0 B	< 1.0 B	< 1.0 B	' < 1.0 B
89-3	< 1.0 B	< 1.0 B	< 1.0 B	< 1.0 B
89-4	< 1.0 B	< 1.0 B	< 1.0 B	< 1.0 B
89-6	< 1.0 B	< 1.0 B	< 1.0 B	< 1.0 B
89-7	< 1.0 B	< 1.0 B	< 1.0 B	< 1.0 B
89-9	< 1.0 B	< 1.0 B	< 1.0 B	< 1.0 B
90-3	< 1.0 B	< 1.0 B	< 1.0 B	< 1.0 B
92-1	-	-	•	< 1.0 B
L-87-1	< 1.0 B	< 1.0 B	< 1.0 B	< 1.0 B
L-87-2	53.0 B	65.0 B	70.0 B	63.0 B
L-87-3	< 1.0 B	< 1.0 B	< 1.0 B	< 1.0 B
L-87-4	< 1.0 B	< 1.0 B	< 1.0 B	< 1.0 B
L-87-5	-	< 1.0 B	< 1.0 B	< 1.0 B
L-87-7	< 1.0 B	< 1.0 B	< 1.0 B	< 1.0 B
L-87-8	< 1.0 B	< 1.0 B	< 1.0 B	< 1.0 B
L-88-10	3.4 B	17.0 B	5.2 B	8.7 B
L-88-12	< 1.0 B	< 1.0 B	< 1.0 B	< 1.0 B
L-88-13	< 1.0 B	4.0 B	1.2 B	< 1.0 B
LG-10	< 1.0 B	< 1.0 B	< 1.0 B	< 1.0 B
LS-10	•	< 1.0 B	-	< 1.0 B
LS-11	< 1.0 B	130.0 B	250.0 B	44.0 B
LS-6	< 1.0 B	< 1.0 B	< 1.0 B	< 1.0 B
LS-7	-	< 1.0 B	-	-
LS-8	23.0 B	< 1.0 B	2.6 B	28.0 B
POTW	< 1.0 B	< 1.0 B	< 1.0 B	< 1.0 B



Table 5: Total Petroleum Hydrocarbon Analytical Results for Ground-Water Samples Collected During the May 1991, August 1991, November 1991, and February 1992 Sampling Rounds, Livingston Rail Yard, Livingston, Montana.

Chemical Parameter: Total petroleum hydrocarbons Units: mg/L

		1991		1992
Monitoring	May	August	November	February
Well	Quarterly	Quarterly	Quarterly	Quarterly
·				,
1	0.1 B	< 0.1 B	< 0.1 B	0.4 B
2	< 0.1 B	< 0.1 B	< 0.1 B	< 0.1 B
3	-	< 0.1 B	0.6 B	0.3 B
4	< 0.1 A	< 0.1 B	< 0.1 B	< 0.1 B
5	< 0.1 B	< 0.1 B	< 0.1 B	< 0.1 B
6	< 0.1 B	< 0.1 B	< 0.1 B	< 0.1 B
7	< 0.1 B	< 0.1 B	< 0.1 B	< 0.1 B
8	< 0.1 B	< 0.1 B	< 0.1 B	2.5 B
89-1	< 0.1 B	< 0.1 B	< 0.1 B	< 0.1 B
89-10	-	< 0.1 B	-	< 0.1 B
89-11	< 0.1 B	< 0.1 B	< 0.1 B	< 0.1 B
89-2	< 0.1 B	< 0.1 B	< 0.1 B	· < 0.1 B
89-3	< 0.1 B	< 0.1 B	< 0.1 B	< 0.1 B
89-4	< 0.1 B	< 0.1 B	< 0.1 B	< 0.1 B
89-6	0.2 B	< 0.1 B	< 0.1 B	< 0.1 B
89-7	0.3 B	< 0.1 B	< 0.1 B	< 0.1 B
89-9	< 0.1 B	< 0.1 B	< 0.1 B	0.3 B
90-3	< 0.1 B	< 0.1 B	< 0.1 B	< 0.1 B
92-1	-	-	-	< 0.1 B
L-87-1	< 0.1 B	< 0.1 B	< 0.1 B	< 0.1 B
L-87-2	1.0 B	1.2 B	0.7 B	2.8 B
L-87-3	< 0.1 B	< 0.1 B	< 0.1 B	< 0.1 B
L-87-4	< 0.1 B	< 0.1 B	0.6 B	< 0.1 B
L-87-5	-	< 0.1 B	-	< 0.1 B
L-87-7	1.3 B	0.9 B	1.2 B	0.5 B
L-87-8	222.0 U	1.2 B	8.9 B	2.9 B
L-88-10	< 0.1 B	< 0.1 B	< 0.1 B	< 0.1 B
L-88-12	< 0.1 A	< 0.1 B	< 0.1 B	< 0.1 B
L-88-13	< 0.1 B	< 0.1 B	< 0.1 B	0.1 B
LG-10	< 0.1 B	< 0.1 B	< 0.1 B	< 0.1 B
LS-10	-	< 0.1 B	-	< 0.1 B
LS-11	< 0.1 B	0.5 в	0.6 B	< 0.1 B
LS-6	1.3 B	1.1 B	1.1 B	2.9 B
LS-7	-	< 0.1 B	-	< 0.1 B
LS-8	< 0.1 B	< 0.1 B	< 0.1 B	< 0.1 B
POTW	< 0.1 B	< 0.1 B	0.3 B	< 0.1 B



future impact of SVE operations at the Locomotive Shop manways. As shown on Tables 1 through 5, this sample contained 850 ppb of PCE, 0.76 ppb of TCE, and 4.5 ppb of cis-1,2-DCE. No chlorobenzene or TPH was detected. These results indicate that the Locomotive Shop manways were a significant VOC source to the alluvial aquifer. SVE operations at the Locomotive Shop manways through March 1992 have removed more than 60 pounds of PCE from this area.

# 2.3 March 1992 Ground Water Sampling Results

Five ground water samples were collected on March 31, 1992. One sample each was collected from Monitoring Wells LG-10, 89-2, 89-3, and the B-Street Municipal Well, and one was a trip blank. All samples were analyzed by EPA Method 601, except for the B-Street Municipal Well sample, which was analyzed by EPA Method 524.2. Laboratory analytical results and a data validation report for this sampling round are included in Appendix C.

No analytes were detected in the samples from Monitoring Wells 89-2 and LG-10 and the B-Street Municipal Well. The sample from Monitoring Well 89-3 was collected to evaluate the impact of the installation of the SVE at the Electric Shop. The Electric Shop SVE system was turned on during mid-March 1992. As shown by the results in Appendix C and on Table 1, PCE and TCE concentrations at Monitoring Well 89-3 were 255 and 0.59 ug/l respectively, similar to previous sample results.

# 2.4 <u>Dense-Nonaqueous-Phase-Liquid Sampling</u>

On March 4 and 5, 1992, a well was drilled adjacent to the Electric Shop degreaser pit to investigate the potential for a dense, nonaqueous-phase liquid



(DNAPL) to be present at the alluvium/bedrock contact beneath this location. During the installation of the SVE system in the Electric Shop, a well was drilled to the alluvium/bedrock contact. Once this contact was reached, a split-spoon soil sample was taken of the alluvium at the contact. At this point, the well was allowed to sit overnight. The following morning (April 5, 1992) a water sample was collected from the bottom of the well with a disposable bailer without purging any water from the well. The MDHES representative took a split sample. The casing was then withdrawn from the aquifer and the well was completed as an SVE well above the water table.

As shown in Appendix A, the water sample contained 44 ppb of PCE. The MDHES split sample showed good correlation, with a concentration of 47 ppb of PCE. The soil sample collected from the alluvium/bedrock contact did not contain any detectable VOCs. These data indicate that a DNAPL is not present at this site beneath the LRY.





# APPENDIX A JANUARY LABORATORY ANALYSES



# DATA VALIDATION REPORT FOR GROUNDWATER ANALYSES LIVINGSTON RAIL YARD, LIVINGSTON, MONTANA JANUARY 1992 MONTHLY SAMPLING ROUND

#### 1.0 INTRODUCTION

Data validation levels have been established for the sample round according to the criteria described in Appendix 1.A of the Remedial Investigation Report. The data validation levels and codes for the Livingston Rail Yard project are based on the U.S. Environmental Protection Agency Region VIII guidance, "Evaluation Criteria for Existing Data from CERCLA Study Areas", Revision 1, January 5, 1985.

Table 1 lists all of the sample station names, sample dates, Envirocon field identification number, laboratory identification number, analytical methods and number of analytes per analytical method for the January 1992 monthly sampling round.

Table 1: Groundwater medium analytical suites for samples collected on 01/21/92

Sample S	tation	Date	Envirocon ID#	Lab ID #	601
89-2	(PS)	01/21/92	140101-997	92-4364	31
89-2	(FD)	01/21/92	140101-998	92-4365	31
LG-10	(PS)	01/21/92	140101-996	92-4363	31

#### Explanation

(PS) - Primary Sample
(FD) - Field Duplicate

#### 2.0 EVALUATION OF BLANK ANALYSES

One trip blank was analyzed for this sampling round and no contaminants were found. One laboratory blank was analyzed for this sampling round and no contaminants were found. All the blank results are located at the end of this report.



#### 3.0 EVALUATION OF DUPLICATE ANALYSES

One field duplicate was collected during this sampling round. A field duplicate was collected at well 89-2. No laboratory duplicates were analyzed for this sample round. No second laboratory splits were collected for this sample round. No relative percent difference calculations were greater than 30% for this sampling round.

#### 4.0 EVALUATION OF HOLDING TIMES

No holding times were exceeded for this sample round.

#### 5.0 EVALUATION OF MATRIX AND SURROGATE SPIKE RESULTS

Surrogate spike recoveries were within recovery limits and are located at the end of this report.

#### 6.0 Validation Level Assignments

All analytical results are acceptable for quantitative data analysis for this sampling round.



## Laboratory and Trip Blank Analytical Results

Chemical Parameter	LAB BLANK 1	TRIP BLANK 1 01/21/92
Chemical Compound Class: Volatile Organic Co	mpounds	
Bromodichloromethane, ug/L	< 1.0	< 1.0
Bromoform, ug/L	< 1.0	< 1.0
Bromomethane, ug/L	< 1.0	< 1.0
Carbon tetrachloride, ug/L	< 0.5	< 0.5
Chlorobenzene, ug/L	< 1.0	< 1.0
Chloroethane, ug/L	< 1.0	< 1.0
2-Chloroethyl vinyl ether, ug/L	< 1.0	< 1.0
Chloroform, ug/L	< 1.0	< 1.0
Chloromethane, ug/L	< 1.0	< 1.0
2-Chlorotoluene, ug/L	< 1.0	< 1.0
Dibromochloromethane, ug/L	< 1.0	< 1.0
1,2-Dichlorobenzene, ug/L	< 1.0	< 1.0
1,3-Dichlorobenzene, ug/L	< 1.0	< 1.0
1,4-Dichlorobenzene, ug/L	< 0.5	< 0.5
Dichlorodifluoromethane, ug/L	< 1.0	< 1.0
1,1-Dichloroethane, ug/L	< 1.0	< 1.0
1,2-Dichloroethane, ug/L	< 0.5	< 0.5
1,1-Dichloroethene, ug/L	< 0.5	< 0.5
cis-1,2-Dichloroethene, ug/L	< 1.0	< 1.0
trans-1,2-Dichloroethene, ug/L	< 1.0	< 1.0
1,2-Dichloropropane, ug/L	< 1.0	< 1.0
cis-1,3-Dichloropropene, ug/L	< 1.0	< 1.0
trans-1,3-Dichloropropene, ug/L	< 1.0	< 1.0
Methylene chloride, ug/L	< 1.0	< 1.0
1,1,2,2-Tetrachloroethane, ug/L	< 1.0	< 1.0
Tetrachloroethene, ug/L	< 0.5	< 0.5
1,1,1-Trichloroethane, ug/L	< 0.5	< 0.5
1,1,2-Trichloroethane, ug/L	< 1.0	< 1.0
Trichloroethene, ug/L	< 0.5	< 0.5
Trichlorofluoromethane, ug/L	< 1.0	< 1.0
Vinyl chloride, ug/L	< 0.5	< 0.5





# ENERGY LABORATORIES, INC.

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LABORATORY REPORT

TO: ADDRESS:

Envirocon, Inc. P.O. Box 1154

Livingston, MT 59047

LAB NO.: DATE:

92-4362 -65

01/31/92 crp



## WATER VOLATILE SURROGATE RECOVERY

10 μg/l Surrogate Standard Spike

	% recovery		
SAMPLE NO.	S1	S2	S3
SAMPLE NO.	<u>(TOL)#</u>	(BFB)#	(DCE)#
92-4362	115	84	94
92-4363	110	84	108
92-4364	97	86	103
92-4365	106	88	100
Method Blank 01/29/92	90	98	97

QC LIMITS, % Recovery S1 (TOL) = Toluene-d880-120 S2 (BFB) = Bromofluorobenzene 80-120 S3 (DCE) = 1,2-Dichloroethane-d4 80-120

#Column to be used to flag recovery values with an asterisk.

<sup>\*</sup>Values outside of contract required QC limits.





# ENERGY LABORATORIES, INC.

m 2/3/43

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January 31, 1992

RECEIVED

FEB () 3 1992

ENVIROCON, INC.

ENVIROCON, INC.

Envirocon, Inc. P.O. Box 1154 Livingston, MT 59047

On January 22, 1992 these samples, represented by our laboratory numbers 92-4362 to 92-4365, were submitted to our laboratory for analysis.

The test results and quality assurance were reviewed and approved by the undersigned.

Reviewed by: John Handler

COMPLETE ENVIRONMENTAL ANALYTICAL SERVICE





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#### LABORATORY REPORT

TO: ADDRESS: Envirocon, Inc. P.O. Box 1154

Livingston, MT 59047

LAB NO:

92-4363

DATE:

01/31/92 crp

RECEIVED

FEB (1 3 1992

ENVIROCON, INC.

# WATER ANALYSIS

BN/Livingston 140101-996 Sampled 01/21/92 @ 14:10 Submitted 01/22/92 Analyzed 01/29/92

CONSTITUENT	<u>//g/l</u>
Purgeable Halocarbons (EPA Method 8260)	
Bromodichloromethane	< 1.0
Bromoform	< 1.0
Bromomethane	< 1.0
Carbon tetrachloride	< 0.50
Chlorobenzene	< 1.0
Chloroethane	< 1.0
2-Chloroethylvinyl ether	< 1.0
Chloroform	< 1.0
Chloromethane	< 1.0
Dibromochloromethane	< 1.0
1,2-Dichlorobenzene	< 1.0
1,3-Dichlorobenzene	< 1.0
1,4-Dichlorobenzene	< 0.50
1,1-Dichloroethane	< 1.0
1,2-Dichloroethane	< 0.50
1,1-Dichloroethene	< 0.50
cis-1,2-Dichloroethene	< 1.0
trans-1,2-Dichloroethene	< 1.0
1,2-Dichloropropane	< 1.0
cis-1,3-Dichloropropene	< 1.0
trans-1,3-Dichloropropene	< 1.0
Methylene chloride	< 1.0
1,1,2,2-Tetrachloroethane	< 1.0
Tetrachloroethene	< 0.50
1,1,1-Trichloroethane	0.50
1,1,2-Trichloroethane	< 1.0
Trichloroethene	< 0.50
Trichlorofluoromethane	< 1.0
Vinyl chloride	< 0.50
Dichlorodifluoromethane	< 1.0
	./

NOTE: This analysis is equivalent to EPA Methods 601/8010.





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#### LABORATORY REPORT

TO: ADDRESS:

Envirocon, Inc. P.O. Box 1154

Livingston, MT 59047

LAB NO:

92-4364

DATE:

01/31/92 crp

# **WATER ANALYSIS**

BN/Livingston 140101-997 Sampled 01/21/92 @ 15:00 Submitted 01/22/92 Analyzed 01/29/92



CONSTITUENT	<u>µg/l</u>
Purgeable Halocarbons (EPA Method 8260)	
Bromodichloromethane	< 1.0
Bromoform	< 1.0
Bromomethane	< 1.0
Carbon tetrachloride	< 0.50
Chlorobenzene	< 1.0
Chloroethane	< 1.0
2-Chloroethylvinyl ether	< 1.0
Chloroform	< 1.0
Chloromethane	< 1.0
Dibromochloromethane	< 1.0
1,2-Dichlorobenzene	< 1.0
1,3-Dichlorobenzene	< 1.0
1,4-Dichlorobenzene	< 0.50
1,1-Dichloroethane	< 1.0
1,2-Dichloroethane	< 0.50
1,1-Dichloroethene	< 0.50
cis-1,2-Dichloroethene	< 1.0
trans-1,2-Dichloroethene	< 1.0
1,2-Dichloropropane	< 1.0
cis-1,3-Dichloropropene	< 1.0
trans-1,3-Dichloropropene	< 1.0
Methylene chloride	< 1.0
1,1,2,2-Tetrachloroethane	< 1.0
Tetrachloroethene	< 0.50
1,1,1-Trichloroethane	< 0.50
1,1,2-Trichloroethane	< 1.0
Trichloroethene	< 0.50
Trichlorofluoromethane	< 1.0
Vinyl chloride	< 0.50
Dichlorodifluoromethane	< 1.0

NOTE: This analysis is equivalent to EPA Methods 601/8010.





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#### LABORATORY REPORT

Envirocon, Inc. TO: ADDRESS: P.O. Box 1154

Livingston, MT 59047

LAB NO:

92-4365

DATE:

01/31/92 crp

#### WATER ANALYSIS

BN/Livingston 140101-998 Sampled 01/21/92 @ 15:10 Submitted 01/22/92 Analyzed 01/29/92

RECEIVED ENVIROCON, INC.

CONSTITUENT	<u>µg/l</u>
Purgeable Halocarbons (EPA Method 8260)	
Bromodichloromethane	< 1.0
Bromoform	< 1.0
Bromomethane	< 1.0
Carbon tetrachloride	< 0.50
Chlorobenzene	< 1.0
Chloroethane	< 1.0
2-Chloroethylvinyl ether	< 1.0
Chloroform	< 1.0
Chloromethane	< 1.0
Dibromochloromethane	< 1.0
1,2-Dichlorobenzene	< 1.0
1,3-Dichlorobenzene	< 1.0
1,4-Dichlorobenzene	< 0.50
1,1-Dichloroethane	< 1.0
1,2-Dichloroethane	< 0.50
1,1-Dichloroethene	< 0.50
cis-1,2-Dichloroethene	< 1.0
trans-1,2-Dichloroethene	< 1.0
1,2-Dichloropropane	< 1.0
cis-1,3-Dichloropropene	< 1.0
trans-1,3-Dichloropropene	< 1.0
Methylene chloride	< 1.0
1,1,2,2-Tetrachloroethane	< 1.0
Tetrachloroethene	< 0.50
1,1,1-Trichloroethane	< 0.50
1,1,2-Trichloroethane	< 1.0
Trichloroethene	< 0.50
Trichlorofluoromethane	< 1.0
Vinyl chloride	< 0.50
Dichlorodifluoromethane	< 1.0
2:	V

NOTE: This analysis is equivalent to EPA Methods 601/8010.





# APPENDIX B FEBRUARY LABORATORY ANALYSES



# DATA VALIDATION REPORT FOR GROUNDWATER ANALYSES LIVINGSTON RAIL YARD, LIVINGSTON, MONTANA FEBRUARY 1992 QUARTERLY SAMPLING ROUND

#### 1.0 INTRODUCTION

Data validation levels have been established for the sample round according to the criteria described in Appendix 1.A of the Remedial Investigation Report. The data validation levels and codes for the Livingston Rail Yard project are based on the U.S. Environmental Protection Agency Region VIII guidance, "Evaluation Criteria for Existing Data from CERCLA Study Areas", Revision 1, January 5, 1985.

Table 1 lists all of the sample station names, sample dates, Envirocon field identification number, laboratory identification number, analytical methods and number of analytes per analytical method for the February 1992 quarterly sampling round.

Table 1: Groundwater medium analytical suites for samples collected from 02/25/92 to 03/06/92

					EPA Analytical Methods					
Sample	Station	Date	Envirocon ID#	Lab ID #	200.7	300.0	310.1	353.2	418.1	524.2
1	(PS)	02/27/92	140101-1021	92-8616	0	0	0	0	1	58
2	(PS)	02/26/92	140101-1013	92-6503	0	0	0	0	1	58
3	(PS)	02/28/92	140101-1034	92-8648	0	0	0	0	1	58
4	(PS)	02/26/92	140101-1014	92-6504	0	0	0	0	1	58
5	(PS)	02/26/92	140101-1015	92-6505	0	0	0	0	1	58
6	(PS)	02/27/92	140101-1028	92-8623	0	0	0	0	1	58
7	(PS)	02/27/92	140101-1023	92-8618	0	0	0	0	1	58
7	(FD)	02/27/92	140101-1024	92-8619	0	0	0	0	1	58
8	(PS)	02/28/92	140101-1039	92-8652	0	0	0	0	1	58
89-1	(PS)	02/28/92	140101-1033	92-8647	0	0	0	0	1	58
89-10	(PS)	02/28/92	140101-1038	92-8651	0	0	0	0	1	58
89-11	(PS)	02/27/92	140101-1026	92-8621	0	0	0	0	1	58
89-2	(PS)	02/25/92	140101-1007	92-6398	0	0	0	0	1	58
89-3	(PS)	02/26/92	140101-1010	92-6500	0	0	0	0	1	58
89-3	(LD)	02/26/92	140101-1010	92-6500	0	0	0	0	0	58
89-4	(PS)	02/25/92	140101-1006	92-6397	0	0	0	0	1	58
89-6	(PS)	02/28/92	140101-1035	92-8649	0	0	0	0	1	58

#### Explanation

(PS) - Primary Sample

(FD) - Field Duplicate

(LD) - Laboratory Duplicate



Table 1 (cont.): Groundwater medium analytical suites for samples collected from 02/25/92 to 03/06/92

					EPA Analytical Methods					
Sample	Station	Date	Envirocon ID#	Lab ID #	200.7	300.0	310.1	353.2	418.1	524.2
89-6	(FD)	02/28/92	140101-1036	92-8650	0	0	0	0	1	58
89-6	(LD)	02/28/92	140101-1036	92-8650	0	0	0	0	0	58
89-7	(PS)	03/03/92	140101-1042	92-8814	0	0	0	0	1	58
89-9	(PS)	02/26/92	140101-1009	92-6499	0	0	0	0	1	58
90-3	(PS)	02/27/92	140101-1031	92-8626	8	2	3	1	1	58
92-1	(PS)	03/03/92	140101-1043	92-8815	0	0	0	0	1	58
92-1	(FD)	03/03/92	140101-1044	92-8816	0	0	0	0	1	58
L-87-1	(PS)	02/25/92	140101-1000	92-6392	0	0	0	0	1	58
L-87-2	(PS)	02/26/92	140101-1011	92-6501	0	0	0	0	1	58
L-87-3	(PS)	02/26/92	140101-1012	92-6502	0	0	0	0	1	58
L-87-4	(PS)	02/26/92	140101-1016	92-6506	0	0	0	0	1	58
L-87-5	(PS)	02/25/92	140101-1003	92-6394	0	0	0	0	1	58
L-87-7	(PS)	02/26/92	140101-1017	92-6507	0	0	0	0	1	58
L-87-8	(PS)	02/26/92	140101-1018	92-6508	0	0	0	0	1	58
L-88-10	(PS)	02/27/92	140101-1025	92-8620	0	0	0	0	1	58
L-88-10	(LD)	02/27/92	140101-1025	92-8620	0	0	0	0	0	58
L-88-12	(PS)	02/25/92	140101-1004	92-6395	0	0	0	0	1	58
L-88-12	(FD)	02/25/92	140101-1005	92-6396	0	0	0	0	1	58
L-88-13	(PS)	02/26/92	140101-1019	92-6509	0	0	0	0	1	58
LG-10	(PS)	02/27/92	140101-1027	92-8622	0	0	0	0	1	58
LS-10	(PS)	03/03/92	140101-1041	92-8813	0	0	0	0	1	58
LS-11	(PS)	02/27/92	140101-1030	92-8625	8	2	3	1	1	58
LS-6	(PS)	02/25/92	140101-1001	92-6393	0	0	0	0	1	58
LS-7	(PS)	02/25/92	140101-1002	92-6391	0	0	0	0	1	0
LS-8	(PS)	02/27/92	140101-1029	92-8624	8	2	3	1	1	58
POTW	(PS)	02/27/92	140101-1022	92-8617	0	0	0	0	1	58

#### Explanation

(PS) - Primary Sample

(FD) - Field Duplicate

(LD) - Laboratory Duplicate

#### 2.0 EVALUATION OF BLANK ANALYSES

Five trip blanks were analyzed for this sampling round. Chloroform was found in two trip blanks at a concentration of 1.0 ug/L. Toluene was found in three trip blanks with a concentration range of 1.1 to 1.3 ug/L. Total xylenes were found in one trip blank at a concentration of 1.8 ug/L. One equipment blank was analyzed for this sampling round. Toluene was found in the equipment blank at a concentration of 1.1 ug/L. Five laboratory blanks were analyzed for this sampling round and no contaminants were found. Table 2 lists the sample results for the February, 1992 quarterly sampling round which were affected by blank contamination. All the blank results are located at the end of this report.



Table 2: List of sample results which are affected by contamination found in blank samples.

Sample Station		Chemical Name	Value Blank Value		Units	Blank Type
L-88-10	(PS)	Chloroform	1.1	1.0	ug/L	Trip
L-88-10	(LD)	Chloroform	1.1	1.0	ug/L	Trip

#### Explanation

- (PS) Primary Sample
- (FD) Field Duplicate
- (LD) Laboratory Duplicate

#### 3.0 EVALUATION OF DUPLICATE ANALYSES

Four field duplicates were collected during this sampling round. Field duplicates were collected at wells L-88-12, 7, 89-6 and 92-1. Three laboratory duplicates were analyzed for this sampling round. Laboratory duplicates were analyzed for the primary sample of well 89-3, the primary sample of well L-88-10 and the field duplicate of well 89-6. No second laboratory splits were collected for this sample round. Table 3 lists the sample results for the February, 1992 quarterly sampling round which failed the duplicate comparison criteria.

Table 3: List of sample results which exceeded the relative percent difference value of 30%.

Sample Station	Chemical Name	Value	Dupl. Value	RPD %	Dupl. Type
L-88-12	Trichloroethene	2.7	4.4	47.9	Field

#### 4.0 EVALUATION OF HOLDING TIMES

No holding times were exceeded for the February 1992 quarterly sampling round.

#### 5.0 EVALUATION OF MATRIX AND SURROGATE SPIKE RESULTS

The matrix spike recoveries were within recovery limits. Surrogate spike recoveries were within recovery limits. The U.S. Environmental Protection Agency quality control results were within the control limits. Matrix spike, surrogate spike and U.S. EPA quality control results are located at the end of this report.



# 6.0 Validation Level Assignments

Analytical results are acceptable for quantitative data analysis for this sampling round with the exception of the sample results listed in Table 5 (qualitative results).

Table 5: List of sample results which have been validated as qualitati
--

Sample Station	Sample Type	Parameter	Reason
L-88-12	Primary Sample	Trichloroethene	Duplicate Comparison Duplicate Comparison
L-88-12	Field Duplicate	Trichloroethene	



# Equipment and Laboratory Blank Analytical Results

Charical Danamatan	EQUIP. BLANK	LAB BLANK 1	LAB BLANK 2
Chemical Parameter	02/28/92		
Chemical Compound Class: Volatile Organi	c Compounds		
Benzene, ug/L	< 0.5	< 0.5	< 0.5
Bromobenzene, ug/L	< 1.0	< 1.0	< 1.0
Bromochloromethane, ug/L	< 1.0	< 1.0	< 1.0
Bromodichloromethane, ug/L	< 1.0	< 1.0	< 1.0
Bromoform, ug/L	< 1.0	< 1.0	< 1.0
Bromomethane, ug/L	< 1.0	< 1.0	< 1.0
n-Butylbenzene, ug/L	< 1.0	< 1.0	< 1.0
sec-Butylbenzene, ug/L	< 1.0	< 1.0	< 1.0
tert-Butylbenzene, ug/L	< 1.0	< 1.0	< 1.0
Carbon tetrachloride, ug/L	< 0.5	< 0.5	< 0.5
Chlorobenzene, ug/L	< 1.0	< 1.0	< 1.0
Chloroethane, ug/L	< 1.0	< 1.0	< 1.0
Chloroform, ug/L	< 1.0	< 1.0	< 1.0
Chloromethane, ug/L	< 1.0	< 1.0	< 1.0
2-Chlorotoluene, ug/L	< 1.0	< 1.0	< 1.0
4-Chlorotoluene, ug/L	< 1.0	< 1.0	< 1.0
Dibromochloromethane, ug/L	< 1.0	< 1.0	< 1.0
1,2-Dibromo-3-chloropropane, ug/L	< 1.0	< 1.0	< 1.0
1,2-Dibromoethane, ug/L	< 1.0	< 1.0	< 1.0
Dibromomethane, ug/L	< 1.0	< 1.0	< 1.0
1,2-Dichlorobenzene, ug/L	< 1.0	< 1.0	< 1.0
1,3-Dichlorobenzene, ug/L	< 1.0	< 1.0	< 1.0
1,4-Dichlorobenzene, ug/L	< 0.5	< 0.5	< 0.5
Dichlorodifluoromethane, ug/L	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane, ug/L	< 1.0	< 1.0	< 1.0
1,2-Dichloroethane, ug/L	< 0.5	< 0.5	< 0.5
1,1-Dichloroethene, ug/L	< 0.5	< 0.5	< 0.5
cis-1,2-Dichloroethene, ug/L	< 1.0	< 1.0	< 1.0
trans-1,2-Dichloroethene, ug/L	< 1.0	< 1.0	< 1.0
1,2-Dichloropropane, ug/L	< 1.0	< 1.0	< 1.0
1,3-Dichloropropane, ug/L	< 1.0	< 1.0	< 1.0
2,2-Dichloropropane, ug/L	< 1.0	< 1.0	< 1.0
1,1-Dichloropropene, ug/L	< 1.0	< 1.0	< 1.0
cis-1,3-Dichloropropene, ug/L	< 1.0	< 1.0	< 1.0
trans-1,3-Dichloropropene, ug/L	< 1.0	< 1.0	< 1.0
Ethylbenzene, ug/L	< 1.0	< 1.0	< 1.0
Hexachlorobutadiene, ug/L	< 1.0	< 1.0	< 1.0
Isopropylbenzene, ug/L	< 1.0	< 1.0	< 1.0
p-Isopropyltoluene, ug/L	< 1.0	< 1.0	< 1.0
Methylene chloride, ug/L	< 1.0	< 1.0	< 1.0
Naphthalene, ug/L	< 1.0	< 1.0	< 1.0
n-Propylbenzene, ug/L	< 1.0	< 1.0	< 1.0
Styrene, ug/L	< 1.0	< 1.0	< 1.0
1,1,1,2-Tetrachloroethane, ug/L	< 1.0	< 1.0	< 1.0
1,1,2,2-Tetrachloroethane, ug/L	< 1.0	< 1.0	< 1.0
Tetrachloroethene, ug/L	< 0.5	< 0.5	< 0.5
Toluene, ug/L	<u>1.1</u>	< 1.0	< 1.0



# Equipment and Laboratory Blank Analytical Results

	EQUIP. BLANK	LAB BLANK 1	LAB BLANK 2
Chemical Parameter	02/28/92		
Chemical Compound Class: Volatile Organic	Compounds		
1,2,3-Trichlorobenzene, ug/L	< 1.0	< 1.0	< 1.0
1,2,4-Trichlorobenzene, ug/L	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane, ug/L	< 0.5	< 0.5	< 0.5
1,1,2-Trichloroethane, ug/L	< 1.0	< 1.0	< 1.0
Trichloroethene, ug/L	< 0.5	< 0.5	< 0.5
Trichlorofluoromethane, ug/L	< 1.0	< 1.0	< 1.0
1,2,3-Trichloropropane, ug/L	< 1.0	< 1.0	< 1.0
1,2,4-Trimethylbenzene, ug/L	< 1.0	< 1.0	< 1.0
1,3,5-Trimethylbenzene, ug/L	< 1.0	< 1.0	< 1.0
Vinyl chloride, ug/L	< 0.5	< 0.5	< 0.5
Xylenes, total, ug/L	< 1.0	< 1.0	< 1.0
Chemical Compound Class: Miscellaneous Che	micals		
Total petroleum hydrocarbons, mg/L	•	< 0.1	< 0.1

		,		

# Laboratory and Trip Blank Analytical Results

Chemical Parameter	LAB BLANK 3	LAB BLANK 4	LAB BLANK 5	TRIP BLANK 02/25/92
Chemical Compound Class: Volatile Organic Co	ompounds			
Benzene, ug/L	< 0.5	< 0.5	< 0.5	< 0.5
Bromobenzene, ug/L	< 1.0	< 1.0	< 1.0	< 1.0
Bromochloromethane, ug/L	< 1.0	< 1.0	< 1.0	< 1.0
Bromodichloromethane, ug/L	< 1.0	< 1.0	< 1.0	< 1.0
Bromoform, ug/L	< 1.0	< 1.0	< 1.0	< 1.0
Bromomethane, ug/L	< 1.0	< 1.0	< 1.0	< 1.0
n-Butylbenzene, ug/L	< 1.0	< 1.0	< 1.0	< 1.0
sec-Butylbenzene, ug/L	< 1.0	< 1.0	< 1.0	< 1.0
tert-Butylbenzene, ug/L	< 1.0	< 1.0	< 1.0	< 1.0
Carbon tetrachloride, ug/L	< 0.5	< 0.5	< 0.5	< 0.5
Chlorobenzene, ug/L	< 1.0	< 1.0	< 1.0	< 1.0
Chloroethane, ug/L	< 1.0	< 1.0	< 1.0	< 1.0
Chloroform, ug/L	< 1.0	< 1.0	< 1.0	<u>1.0</u>
Chloromethane, ug/L	< 1.0	< 1.0	< 1.0	< 1.0
2-Chlorotoluene, ug/L	< 1.0	< 1.0	< 1.0	< 1.0
4-Chlorotoluene, ug/L	< 1.0	< 1.0	< 1.0	< 1.0
Dibromochloromethane, ug/L	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dibromo-3-chloropropane, ug/L	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dibromoethane, ug/L	< 1.0	< 1.0	< 1.0	< 1.0
Dibromomethane, ug/L	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichlorobenzene, ug/L	< 1.0	< 1.0	< 1.0	< 1.0
1,3-Dichlorobenzene, ug/L	< 1.0	< 1.0	< 1.0	< 1.0
1,4-Dichlorobenzene, ug/L	< 0.5	< 0.5	< 0.5	< 0.5
Dichlorodifluoromethane, ug/L	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane, ug/L	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloroethane, ug/L	< 0.5	< 0.5	< 0.5	< 0.5
1,1-Dichloroethene, ug/L	< 0.5	< 0.5	< 0.5	< 0.5
cis-1,2-Dichloroethene, ug/L	< 1.0	< 1.0	< 1.0	< 1.0
trans-1,2-Dichloroethene, ug/L	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloropropane, ug/L	< 1.0	< 1.0	< 1.0	< 1.0
1,3-Dichloropropane, ug/L	< 1.0	< 1.0	< 1.0	< 1.0
2,2-Dichloropropane, ug/L	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloropropene, ug/L	< 1.0	< 1.0	< 1.0	< 1.0
cis-1,3-Dichloropropene, ug/L	< 1.0	< 1.0	< 1.0	< 1.0
trans-1,3-Dichloropropene, ug/L	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene, ug/L	< 1.0	< 1.0	< 1.0	< 1.0
Hexachlorobutadiene, ug/L	< 1.0	< 1.0	< 1.0	< 1.0
Isopropylbenzene, ug/L	< 1.0	< 1.0	< 1.0	< 1.0
p-Isopropyltoluene, ug/L	< 1.0	< 1.0	< 1.0	< 1.0
Methylene chloride, ug/L	< 1.0	< 1.0	< 1.0	< 1.0
Naphthalene, ug/L	< 1.0	< 1.0	< 1.0	< 1.0
n-Propylbenzene, ug/L	< 1.0	< 1.0	< 1.0	< 1.0
Styrene, ug/L	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1,2-Tetrachloroethane, ug/L	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2,2-Tetrachloroethane, ug/L	< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloroethene, ug/L	< 0.5	< 0.5	< 0.5	< 0.5
Toluene, ug/L	< 1.0	< 1.0	< 1.0	<u>1.1</u>



#### Laboratory and Trip Blank Analytical Results

Chemical Parameter	LAB BLANK 3	LAB BLANK 4	LAB BLANK 5	TRIP BLANK 1 02/25/92
				02/23//2
Chemical Compound Class: Volatile Organic Comp	oounds			
1,2,3-Trichlorobenzene, ug/L	< 1.0	< 1.0	< 1.0	< 1.0
1,2,4-Trichlorobenzene, ug/L	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane, ug/L	< 0.5	< 0.5	< 0.5	< 0.5
1,1,2-Trichloroethane, ug/L	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethene, ug/L	< 0.5	< 0.5	< 0.5	< 0.5
Trichlorofluoromethane, ug/L	< 1.0	< 1.0	< 1.0	< 1.0
1,2,3-Trichloropropane, ug/L	< 1.0	< 1.0	< 1.0	< 1.0
1,2,4-Trimethylbenzene, ug/L	< 1.0	< 1.0	< 1.0	< 1.0
1,3,5-Trimethylbenzene, ug/L	< 1.0	< 1.0	< 1.0	< 1.0
Vinyl chloride, ug/L	< 0.5	< 0.5	< 0.5	< 0.5
Xylenes, total, ug/L	< 1.0	< 1.0	< 1.0	< 1.0
Chemical Compound Class: Metals				
Aluminum, total, mg/L	< 0.1		•	-
Calcium, total, mg/L	< 1.0	•	-	-
Iron III, total, mg/L	< 0.03	•	-	-
Magnesium, total, mg/L	< 1.0	-	-	-
Manganese, total, mg/L	< 0.02	-	•	•
Potassium, total, mg/L	< 1.0	-	-	-
Sodium, total, mg/L	< 1.0	-	•	-
Chemical Compound Class: Nonmetal Inorganics				
Alkalinity, total (as CaCO3), mg/L	< 1.0	•		•
Bicarbonate (as CaCO3), mg/L	< 1.0	-	-	-
Carbonate (as CaCO3), mg/L	< 1.0	-	•	-
Chloride, mg/L	< 1.0	-	-	•
Nitrate + Nitrite (as N), mg/L	< 0.05	-	•	•
Silica (as SiO2), mg/L	< 0.1	-	•	•
Sulfate, mg/L	< 1.0	•	•	•
Chemical Compound Class: Miscellaneous Chemica	ls			
Total petroleum hydrocarbons, mg/L	< 0.1	< 0.1	< 0.1	-



# Trip Blank Analytical Results

Chemical Parameter	TRIP BLANK 2 02/26/92	TRIP BLANK 3 02/27/92	TRIP BLANK 4 02/28/92	TRIP BLANK 5 03/03/92	
Chemical Compound Class: Volatile Organic Compounds					
Benzene, ug/L	< 0.5	< 0.5	< 0.5	< 0.5	
Bromobenzene, ug/L	< 1.0	< 1.0	< 1.0	< 1.0	
Bromochloromethane, ug/L	< 1.0	< 1.0	< 1.0	< 1.0	
Bromodichloromethane, ug/L	< 1.0	< 1.0	< 1.0	< 1.0	
Bromoform, ug/L	< 1.0	< 1.0	< 1.0	< 1.0	
Bromomethane, ug/L	< 1.0	< 1.0	< 1.0	< 1.0	
n-Butylbenzene, ug/L	< 1.0	< 1.0	< 1.0	< 1.0	
sec-Butylbenzene, ug/L	< 1.0	< 1.0	< 1.0	< 1.0	
tert-Butylbenzene, ug/L	< 1.0	< 1.0	< 1.0	< 1.0	
Carbon tetrachloride, ug/L	< 0.5	< 0.5	< 0.5	< 0.5	
Chlorobenzene, ug/L	< 1.0	< 1.0	< 1.0	< 1.0	
Chloroethane, ug/L	< 1.0	< 1.0	< 1.0	< 1.0	
Chloroform, ug/L	< 1.0	<u>1.0</u>	< 1.0	< 1.0	
Chloromethane, ug/L	< 1.0	< 1.0	< 1.0	< 1.0	
2-Chlorotoluene, ug/L	< 1.0	< 1.0	< 1.0	< 1.0	
4-Chlorotoluene, ug/L	< 1.0	< 1.0	< 1.0	< 1.0	
Dibromochloromethane, ug/L	< 1.0	< 1.0	< 1.0	< 1.0 .	
1,2-Dibromo-3-chloropropane, ug/L	< 1.0	< 1.0	< 1.0	< 1.0	
1,2-Dibromoethane, ug/L	< 1.0	< 1.0	< 1.0	< 1.0	
Dibromomethane, ug/L	< 1.0	< 1.0	< 1.0	< 1.0	
1,2-Dichlorobenzene, ug/L	< 1.0	< 1.0	< 1.0	< 1.0	
1,3-Dichlorobenzene, ug/L	< 1.0	< 1.0	< 1.0	< 1.0	
1,4-Dichlorobenzene, ug/L	< 0.5	< 0.5	< 0.5	< 0.5	
Dichlorodifluoromethane, ug/L	< 1.0	< 1.0	< 1.0	< 1.0	
1,1-Dichloroethane, ug/L	< 1.0	< 1.0	< 1.0	< 1.0	
1,2-Dichloroethane, ug/L	< 0.5	< 0.5	< 0.5	< 0.5	
1,1-Dichloroethene, ug/L	< 0.5	< 0.5	< 0.5	< 0.5	
cis-1,2-Dichloroethene, ug/L	< 1.0	< 1.0	< 1.0	< 1.0	
trans-1,2-Dichloroethene, ug/L	< 1.0	< 1.0	< 1.0	< 1.0	
1,2-Dichloropropane, ug/L	< 1.0	< 1.0	< 1.0	< 1.0	
1,3-Dichloropropane, ug/L	< 1.0	< 1.0	< 1.0	< 1.0	
2,2-Dichloropropane, ug/L	< 1.0	< 1.0	< 1.0	< 1.0	
1,1-Dichloropropene, ug/L	< 1.0	< 1.0	< 1.0	< 1.0	
cis-1,3-Dichloropropene, ug/L	< 1.0	< 1.0	< 1.0	< 1.0	
trans-1,3-Dichloropropene, ug/L	< 1.0	< 1.0	< 1.0	< 1.0	
Ethylbenzene, ug/L	< 1.0	< 1.0	< 1.0	< 1.0	
Hexachlorobutadiene, ug/L	< 1.0	< 1.0	< 1.0	< 1.0	
Isopropylbenzene, ug/L	< 1.0	< 1.0	< 1.0	< 1.0	
p-Isopropyltoluene, ug/L	< 1.0	< 1.0	< 1.0	< 1.0	
Methylene chloride, ug/L	< 1.0	< 1.0	< 1.0	< 1.0	
Naphthalene, ug/L	< 1.0	< 1.0	< 1.0	< 1.0	
n-Propylbenzene, ug/L	< 1.0	< 1.0	< 1.0	< 1.0	
Styrene, ug/L	< 1.0	< 1.0	< 1.0	< 1.0	
1,1,1,2-Tetrachloroethane, ug/L	< 1.0	< 1.0	< 1.0	< 1.0	
1,1,2,2-Tetrachloroethane, ug/L	< 1.0	< 1.0	< 1.0	< 1.0	
Tetrachloroethene, ug/L	< 0.5	< 0.5	< 0.5	< 0.5	
Toluene, ug/L	< 1.0	1.2	<u>1.3</u>	< 1.0	



Trip Blank Analytical Results

Chemical Parameter	TRIP BLANK 2 02/26/92 Primary	TRIP BLANK 3 02/27/92 Primary	TRIP BLANK 4 02/28/92 Primary	TRIP BLANK 5 03/03/92 Primary
Chemical Compound Class: Volatile Organic Com	ripounds			
1,2,3-Trichlorobenzene, ug/L	< 1.0	< 1.0	< 1.0	< 1.0
1,2,4-Trichlorobenzene, ug/L	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane, ug/L	< 0.5	< 0.5	< 0.5	< 0.5
1,1,2-Trichloroethane, ug/L	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethene, ug/L	< 0.5	< 0.5	< 0.5	< 0.5
Trichlorofluoromethane, ug/L	< 1.0	< 1.0	< 1.0	< 1.0
1,2,3-Trichloropropane, ug/L	< 1.0	< 1.0	< 1.0	< 1.0
1,2,4-Trimethylbenzene, ug/L	< 1.0	< 1.0	< 1.0	< 1.0
1,3,5-Trimethylbenzene, ug/L	< 1.0	< 1.0	< 1.0	< 1.0
Vinyl chloride, ug/L	< 0.5	< 0.5	< 0.5	< 0.5
Xylenes, total, ug/L	< 1.0	< 1.0	< 1.0	<u>1.8</u>





m 3/30/92

P.O. BOX 30916 • 1107 SOUTH BROADWAY • BILLINGS, MT 59107-0916 • PHONE (406) 252-6325 FAX (406) 252-6069 • 1-800-735-4489

#### LABORATORY REPORT

TO: ADDRESS:

Envirocon, Inc. P.O. Box 1154

Livingston, MT 59047

LAB NO .:

92-6501

DATE:

03/23/92 crp

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MAR 2 4 1992

# QUALITY ASSURANCE SPIKE ANALYSIS

ENVIROCON, Inc.

Lab no. 92-6501 was analyzed 03/10/92 and spiked with the following constituents with these results for Envirocon samples:

Spike				
Parameter	Amount, µg/l	P (%)	Range for P (%)	
Chlorobenzene	125	128	60-140	
1,2-Dichlorobenzene	125	117	60-140	
cis-1,2-Dichloroethylene	125	112	60-140	
trans-1,2-Dichloroethylene	125	134	60-140	
1,2-Dichloropropane	125	135	60-140	
Ethylbenzene	125	92	60-140	
Styrene	125	105	60-140	
Tetrachloroethylene	125	123	60-140	
Toluene	125	120	60-140	
o-Xylene	125	103	60-140	
p-Xylene	125	94	60-140	

#### P = Percent Recovery Measured

NOTE: Spike was performed on a 25x dilution due to a high level of cis-1,2-Dichloroethene in the sample.





m 3/30/92

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#### LABORATORY REPORT

TO: ADDRESS: Envirocon, Inc. P.O. Box 1154

Livingston, MT 59047

LAB NO.: DATE: 92-8621 spi

03/24/92 crp

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LIVINGS FOR. INC.

#### QUALITY ASSURANCE - SPIKED ANALYSIS

Lab No. 92-8621 was analyzed 03/16/92 and spiked with the following constituents with these results:

	Spike		
Constituent	Amount, µg/l	<u>P (%)</u>	Range for P (%)
Chlorobenzene	5.0	116	60-140
1,2-Dichlorobenzene	5.0	102	60-140
cis-1,2-Dichloroethylene	5.0	124	60-140
trans-1,2-Dichloroethylene	5.0	126	60-140
1,2-Dichloropropane	5.0	113	60-140
Ethylbenzene	5.0	108	60-140
Styrene	5.0	105	60-140
Tetrachloroethylene	5.0	120	60-140
Toluene	5.0	112	60-140
o-Xylene	5.0	108	60-140
p-Xylene	5.0	116	60-140

P = Percent recovery measured.





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LABORATORY REPORT

TO: ADDRESS:

Envirocon, Inc. P.O. Box 1154

Livingston, MT 59047

LAB NO.:

92-8651 spi

DATE:

03/26/92 rh

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ENVIROCON, Inc. Livingeton, Mt.

# QUALITY ASSURANCE - SPIKED ANALYSIS

Lab No. 92-8651 was analyzed on 03/24/92 and spiked with the following constituents with these results for Envirocon samples.

Spike		Range for
Amount*, µg/l	<u>P (%)</u>	P (%)
50	122	60-140
50	117	60-140
50	120	60-140
50	114	60-140
50	121	60-140
50	114	60-140
50	112	60-140
50	78	60-140
50	114	60-140
50	114	60-140
50	94	60-140
	50 50 50 50 50 50 50 50 50 50	Amount*, μg/I       P (%)         50       122         50       117         50       120         50       114         50       121         50       114         50       78         50       114         50       114         50       114         50       114         50       114

P = Percent Recovery Measured

<sup>\*</sup> Sample was diluted 10x before spiking.



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LABORATORY REPORT

TO: ADDRESS:

Envirocon, Inc. P.O. Box 1154

Livingston, MT 59047

LAB NO.: 92-6390,92-98

**DATE:** 03/16/92 rh

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ENVIROCAN Inc.

# WATER VOLATILE SURROGATE RECOVERY

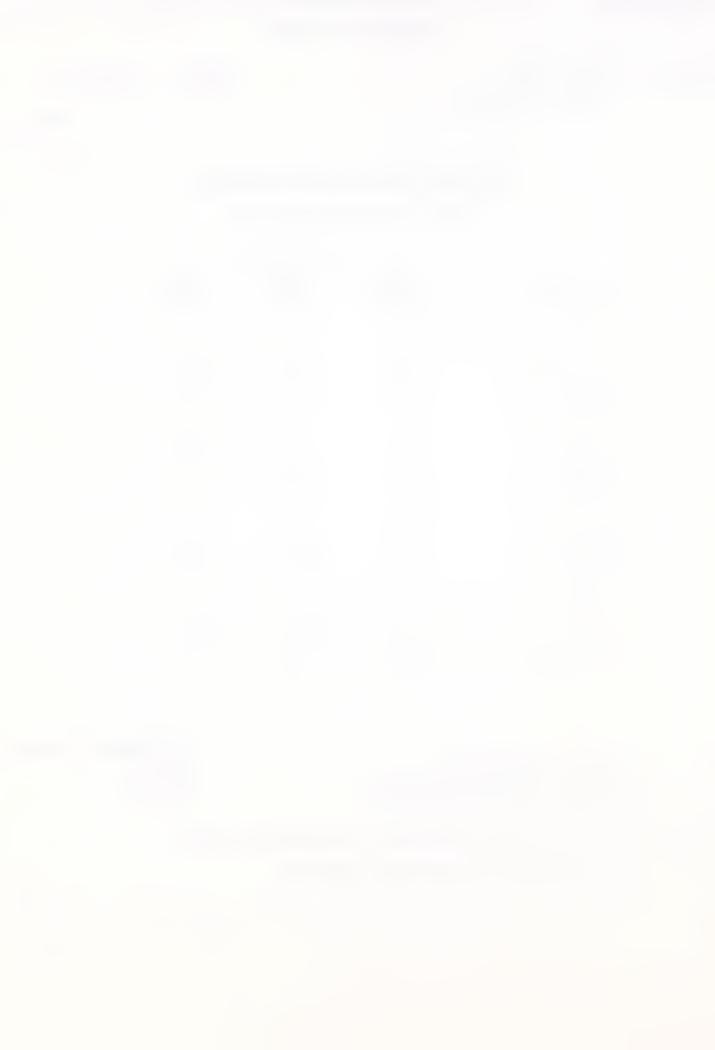
10 µg/l Surrogate Standard Spike

		% recovery-	
SAMPLE NO.	S1 (TOL)#	S2 (BFB)#	S3 (DCE)#
92-6390	108	87	100
92-6390 dup	109	96	100
92-6392	119	86	109
92-6393	97	94	92
92-6394	111	90	113
92-6395	108	90	111
92-6396	113	100	95
92-6397	82	100	104
92-6398	85	102	106
Method Blank	106	96	92

•	QC LIMITS, % Recovery
S1 (TOL) = Toluene-d8	80-120
S2 (BFB) = Bromofluorobenzene	80-120
S3 (DCE) = 1,2-Dichloroethane-d4	80-120

#Column to be used to flag recovery values with an asterisk.

\* Values outside of contract required QC limits.





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LABORATORY REPORT

TO: ADDRESS: Envirocon, Inc. P.O. Box 1154

Livingston, MT 59047

LAB NO.:

92-6498 -6509

DATE: 03/23/92 crp

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### WATER VOLATILE SURROGATE RECOVERY

MAR 2 4 1992

10 μg/l Surrogate Standard Spike

ENVIROCON, Inc. Livingston, Mt.

	% recovery		
SAMPLE NO.	S1 (TOL)#	S2 (BFB)#	S3 (DCE)#
92-6498	92	93	106
92-6499	89	101	109
92-6500	91	102	86
92-6500 dup	101	99	96
92-6501	102	103	80
92-6502	91	106	117
92-6503	88	100	119
92-6504	94	98	108
92-6505	106	100	110
92-6506	101	102	103
92-6507	98	102	107
92-6508	101	103	102
92-6509	103	102	105
Method Blank 03/03/92	104	113	88

QC LIMITS, % Recovery

S1 (TOL) = Toluene-d8

S2 (BFB) = Bromofluorobenzene

S3 (DCE) = 1,2-Dichloroethane-d4

80-120 80-120

80-120

<sup>\*</sup>Values outside of contract required QC limits.







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#### LABORATORY REPORT

TO: ADDRESS:

Envirocon, Inc. P.O. Box 1154

Livingston, MT 59047

LAB NO.: DATE: 92-8615 -26

03/24/92 crp

WATER VOLATILE SURROGATE RECOVERY

10 µg/l Surrogate Standard Spike

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ENVIROCON, Inc.
LIVINGSTON, MR.

		% recovery	
SAMPLE NO.	S1 (TOL)#	S2 (BFB)#	S3 (DCE)#
92-8615	104	106	103
92-8616	114	98	113
92-8617	105	94	102
92-8618	118	98	97
92-8619	118	99	95
92-8620	110	92	118
92-8620 dup	99	98	117
92-8621	108	95	120
92-8622	99	91	106
92-8623	100	105	110
92-8624	99	104	113
92-8625	96	103	103
92-8626	99	104	99
Method Blank 03/10/92	90	104	93

	QC LIMITS, % Recovery
S1 (TOL) = Toluene-d8	80-120
S2 (BFB) = Bromofluorobenzene	80-120
S3 (DCE) = 1,2-Dichloroethane-d4	80-120

<sup>\*</sup>Values outside of contract required QC limits.





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LABORATORY REPORT

TO: ADDRESS: Envirocon, Inc. P.O. Box 1154

Livingston, MT 59047

LAB NO.: 92-8645-52

DATE:

03/26/92 rh

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ENVIROCON, Inc. Flyingston, Mr.

### WATER VOLATILE SURROGATE RECOVERY

10 μg/l Surrogate Standard Spike

	% recovery		
SAMPLE NO.	S1 (TOL)#	S2 (BFB)#	S3 (DCE)#
92-8645	105	93	90
92-8646	108	92	97
92-8647	112	90	115
92-8648	101	92	107
92-8649	118	92	107
92-8650	104	101	100
92-8650 dup	100	93	112
92-8651	118	97	95
92-8652	103	98	119
Method Blank 03/12/92	113	100	80

	QC LIMITS, % Recovery
S1 (TOL) = Toluene-d8	80-120
S2 (BFB) = Bromofluorobenzene	80-120
S3 (DCE) = 1,2-Dichloroethane-d4	80-120

<sup>\*</sup> Values outside of contract required QC limits.





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#### LABORATORY REPORT

TO: ADDRESS:

Envirocon, Inc. P.O. Box 1154

Livingston, MT 59047

LAB NO.:

92-8813 -17

DATE:

03/25/92 crp

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ENVIROCON, Inc.

### WATER VOLATILE SURROGATE RECOVERY

10 µg/l Surrogate Standard Spike

	% recovery S1 S2 S3			
SAMPLE NO.	(TOL)#	(BFB)#	(DCE)#	
92-8813	105	98	108	
92-8814	110	95	111	
92-8815	108	92	109	
92-8816	108	96	111	
92-8817	101	104	91	
Method Blank 03/16/92	105	96	90	

	QC LIMITS, % Recovery
S1 (TOL) = Toluene-d8	80-120
S2 (BFB) = Bromofluorobenzene	80-120
S3 (DCE) = 1,2-Dichloroethane-d4	80-120

<sup>\*</sup>Values outside of contract required QC limits.





P.O. BOX 30916 • 1107 SOUTH BROADWAY • BILLINGS, MT 59107-0916 • PHONE (406) 252-6325 FAX (406) 252-6069 • 1-800-735-4489

#### LABORATORY REPORT

TO: ADDRESS:

Envirocon, Inc. P.O. Box 1154

Livingston, MT 59047

LAB NO.:

92-6390,92-98

DATE:

03/16/92 rh

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EPA WATER SUPPLY QUALITY CONTROL SAMPLE

ENVIROCON, Inc. Livingston, Mt.

Volatile Organic Contaminants

This EPA Quality Control sample was analyzed with your Lab No.s 92-6390, 6392-98 with the following results:

	True Value,		Range
Parameter	<u> µg/l</u>	P(%)	for P(%)
1,1-Dichloroethene	5.0	100	60-140
trans-1,2-Dichloroethene	5.0	102	60-140
1,2-Dichloroethane	5.0	84	60-140
Carbon Tetrachloride	5.0	100	60-140
1,2-Dichloropropane	5.0	126	60-140
1,1,2-Trichloroethane	5.0	88	60-140
Tetrachloroethene	5.0	106	60-140
Chlorobenzene	5.0	100	60-140
Ethylbenzene	5.0	108	60-140
1,3-Dichlorobenzene	5.0	98	60-140
1,4-Dichlorobenzene	5.0	104	60-140





w 3/3992

P.O. BOX 30916 • 1107 SOUTH BROADWAY • BILLINGS, MT 59107-0916 • PHONE (406) 252-6325 FAX (406) 252-6069 • 1-800-735-4489

# LABORATORY REPORT

TO: ADDRESS:

Envirocon, Inc. P.O. Box 1154

Livingston, MT 59047

LAB NO.: DATE: Evaluation Sample

03/23/92 crp

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MAR 2 4 1992

ENVIROCON, Inc. Livingston, Mt.

EPA WATER SUPPLY QUALITY CONTROL SAMPLE

Volatile Organic Contaminants

This EPA Quality Control sample was analyzed 03/03/92 with the following results:

	True		
<u>Parameter</u>	Value, µg/l	P(%)	Range for P (%)
1,1-Dichloroethene	5.0	100	60-140
trans-1,2-Dichloroethene	5.0	102	60-140
1,2-Dichloroethane	5.0	84	60-140
Carbon Tetrachloride	5.0	100	60-140
1,2-Dichloropropane	5.0	126	60-140
1,1,2-Trichloroethane	5.0	88	60-140
Tetrachloroethene	5.0	106	60-140
Chlorobenzene	5.0	100	60-140
Ethylbenzene	5.0	108	60-140
1,3-Dichlorobenzene	5.0	98	60-140
1,4-Dichlorobenzene	5.0	104	60-140





m 3 3095

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#### LABORATORY REPORT

TO: ADDRESS:

Envirocon, Inc. P.O. Box 1154

Livingston, MT 59047

LAB NO .:

92-8615 -26

DATE:

03/24/92 crp



#### EPA WATER SUPPLY QUALITY CONTROL SAMPLE

Volatile Organic Contaminants

This EPA Quality Control sample was analyzed 03/09/92 with your lab nos. 92-8615 to 92-8626 with the following results:

	True		
Parameter	Value, µg/l	P (%)	Range for P (%)
1,1-Dichloroethene	5.0	104	60-140
trans-1,2-Dichloroethene	5.0	108	60-140
1,2-Dichloroethane	5.0	103	60-140
Carbon Tetrachloride	5.0	120	60-140
1,2-Dichloropropane	5.0	128	60-140
1,1,2-Trichloroethane	5.0	138	60-140
Tetrachloroethene	5.0	109	60-140
Chlorobenzene	5.0	120	60-140
Ethylbenzene	5.0	84	60-140
1,3-Dichlorobenzene	5.0	93	60-140
1,4-Dichlorobenzene	5.0	93	60-140





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LABORATORY REPORT

TO: ADDRESS:

Envirocon, Inc. P.O. Box 1154

Livingston, MT 59047

LAB NO.: 92-8645-52

DATE:

03/26/92 rh

RECEIVED

MAR 3 0 1992

ENVIROCON, Inc.

EPA WATER SUPPLY QUALITY CONTROL SAMPLE

Volatile Organic Contaminants

These EPA Quality Control samples were analyzed with your Lab No.s 92-8645 to 92-8652 with the following results:

	True Value,		Range
<u>Parameter</u>	<u>µg/l</u>	P(%)	for P(%)
1,1-Dichloroethene	5.0	104	60-140
trans-1,2-Dichloroethene	5.0	108	60-140
1,2-Dichloroethane	5.0	92	60-140
Carbon Tetrachloride	5.0	106	60-140
1,2-Dichloropropane	5.0	102	60-140
1,1,2-Trichloroethane	5.0	104	60-140
Tetrachloroethene	5.0	116	60-140
Chlorobenzene	5.0	110	60-140
Ethylbenzene	5.0	113	60-140
1,3-Dichlorobenzene	5.0	110	60-140
1,4-Dichlorobenzene	5.0	106	60-140

P = Percent recovery measured.





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#### LABORATORY REPORT

TO: ADDRESS: Envirocon, Inc. P.O. Box 1154

Livingston, MT 59047

LAB NO.: DATE: 92-8813 -17

03/25/92 crp

RECEIVED

MAR 2 6 1992

ENVIROCON, Inc.

#### EPA WATER SUPPLY QUALITY CONTROL SAMPLE

Volatile Organic Contaminants

This EPA Quality Control sample was analyzed 03/16/92 with your lab nos. 92-8813 to 92-8817 with the following results:

	True		
<u>Parameter</u>	Value, µg/l	<u>P (%)</u>	Range for P (%)
1,1-Dichloroethene	5.0	104	60-140
trans-1,2-Dichloroethene	5.0	108	60-140
1,2-Dichloroethane	5.0	92	60-140
Carbon Tetrachloride	5.0	106	60-140
1,2-Dichloropropane	5.0	102	60-140
1,1,2-Trichloroethane	5.0	104	60-140
Tetrachloroethene	5.0	116	60-140
Chlorobenzene	5.0	110	60-140
Ethylbenzene	5.0	113	60-140
1,3-Dichlorobenzene	5.0	110	60-140
1,4-Dichlorobenzene	5.0	106	60-140



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MAR 17 1992

ENVIROCON, Inc. Livingson, Mt.

March 16, 1992

Envirocon, Inc. P.O. Box 1154 Livingston, MT 59047

On February 27, 1992, these samples, represented by our laboratory numbers 92-6390 to 92-6398 were submitted to our laboratory for analysis.

The test results and quality assurance were reviewed and approved by the undersigned.

Reviewed by: Jos Standur





M 3 19 97

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#### LABORATORY REPORT

ro: address:

1,2-Dichloropropane

Envirocon, Inc. P.O. Box 1154

Livingston, MT 59047

LAB NO.: DATE: 92-6392 03/16/92 rh

MAR 1 > 1902 Livingston, Mrc.

#### **WATER ANALYSIS**

Livingston/BN 140101-1000 Sampled 02/25/92 @ 1210 Submitted 02/27/92 Analyzed 03/02/92

Volatile Organic Constituent	<u>µg/l</u>	Volatile Organic Constituent	<u>µg/l</u>
Benzene	< 0.50	1,3-Dichloropropane	< 1.0
_Bromobenzene	< 1.0	2,2-Dichloropropane	< 1.0
Bromochloromethane	< 1.0	1,1-Dichloropropene	< 1.0
Bromodichloromethane	< 1.0	cis-1,3-Dichloropropene	< 1.0
Bromoform	< 1.0	trans-1,3-Dichloropropene	< 1.0
Bromomethane	< 1.0	Ethylbenzene	< 1.0
n-Butylbenzene	< 1.0	Hexachlorobutadiene	< 1.0
sec-Butylbenzene	< 1.0	Isopropylbenzene	< 1.0
ert-Butylbenzene	< 1.0	p-Isopropyltoluene	< 1.0
Carbon tetrachloride	< 0.50	Methylene chloride	< 1.0
Chlorobenzene	< 1.0	Naphthalene	< 1.0
Chloroethane	< 1.0	n-Propylbenzene	< 1.0
Chloroform	< 1.0	Styrene	< 1.0
Chloromethane	< 1.0	1,1,1,2-Tetrachloroethane	< 1.0
2-Chlorotoluene	< 1.0	1,1,2,2-Tetrachloroethane	< 1.0
4-Chlorotoluene	< 1.0	Tetrachloroethene	< 0.50
1,2-Dibromo-3-chloropropane	< 1.0	Toluene	< 1.0
Dibromochloromethane	< 1.0	1,2,3-Trichlorobenzene	< 1.0
1,2-Dibromoethane	< 1.0	1,2,4-Trichlorobenzene	< 1.0
Dibromomethane	< 1.0	1,1,1-Trichloroethane	< 0.50
_1,2-Dichlorobenzene	< 1.0	1,1,2-Trichloroethane	< 1.0
,3-Dichlorobenzene	< 1.0	Trichloroethene	< 0.50
1,4-Dichlorobenzene	< 0.50	Trichlorofluoromethane	< 1.0
Dichlorodifluoromethane	< 1.0	1,2,3-Trichloropropane	< 1.0
1,1-Dichloroethane	< 1.0	1,2,4-Trimethylbenzene	< 1.0
,2-Dichloroethane	< 0.50	1,3,5-Trimethylbenzene	< 1.0
_1,1-Dichloroethene	< 0.50	Vinyl chloride	< 0.50
cis-1,2-Dichloroethene	< 1.0	Xylenes	< 1.0
rans-1,2-Dichloroethene	< 1.0	•	V
4 0 D'abla			

REMARKS: Sample was properly preserved and in specified container. Sample was analyzed in accordance with EPA method 524.2.

< 1.0





Nolatile Organic Constituent

# **ENERGY LABORATORIES, INC.**

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m 3 1992

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#### LABORATORY REPORT

ADDRESS:

Envirocon, Inc. P.O. Box 1154

Livingston, MT 59047

LAB NO .: DATE:

Volatile Organic Constituent

92-6393

03/16/92 rh

WATER ANALYSIS

Livingston/BN 140101-1001 Sampled 02/25/92 @ 1310 Submitted 02/27/92 Analyzed 03/06/92

MAR 1 > 1992 ENVIRONCE MINE.

Volatile Organic Constituent	<u>µg/I</u>	Volatile Organic Constituent	<u>µg/1</u>
Benzene	< 0.50	1,3-Dichloropropane	< 1.0
Bromobenzen <b>e</b>	< 1.0	2,2-Dichloropropane	< 1.0
Bromochloromethane	< 1.0	1,1-Dichloropropene	< 1.0
Bromodichloromethane	< 1.0	cis-1,3-Dichloropropene	< 1.0
Bromoform	< 1.0	trans-1,3-Dichloropropene	< 1.0
Bromometh <b>ane</b>	< 1.0	Ethylbenzene	< 1.0
n-Butylbenzene	< 1.0	Hexachlorobutadiene	< 1.0
sec-Butylbenzene	3.2	lsopropylbenzene	· 1.7
tert-Butylbenzene	< 1.0	p-Isopropyltoluene	< 1.0
Carbon tetrachloride	< 0.50	Methylene chloride	< 1.0
Chlorobenzene	< 1.0	Naphthalene	< 1.0
Chloroethane	< 1.0	n-Propylbenzene	< 1.0
Chloroform	< 1.0	Styrene Styrene	< 1.0
Chloromethane	< 1.0	1,1,1,2-Tetrachloroethane	< 1.0
2-Chlorotoluene	< 1.0	1,1,2,2-Tetrachloroethane	< 1.0
4-Chlorotoluene	< 1.0	Tetrachloroethene	1.4
1,2-Dibromo-3-chloropropane	< 1.0	Toluene	< 1.0
<b>P</b> ibromochloromethane	< 1.0	1,2,3-Trichlorobenzene	< 1.0
1,2-Dibromoethane	< 1.0	1,2,4-Trichlorobenzene	< 1.0
Dibromomethane	< 1.0	1,1,1-Trichloroethane	< 0.50
1,2-Dichlorobenzene	< 1.0	1,1,2-Trichloroethane	< 1.0
1,3-Dichlorobenzene	< 1.0	Trichloroethene	< 0.50
1,4-Dichlorobenzene	< 0.50	Trichlorofluoromethane	< 1.0
Dichlorodifluoromethane	< 1.0	1,2,3-Trichloropropane	< 1.0
1,1-Dichloroethane	< 1.0	1,2,4-Trimethylbenzene	< 1.0
1,2-Dichloroethane	< 0.50	1,3,5-Trimethylbenzene	< 1.0
1,1-Dichloroethene	< 0.50	Vinyl chloride	< 0.50
pis-1,2-Dichloroethene	< 1.0	Xylenes	< 1.0
trans-1,2-Dichloroethene	< 1.0	·	,
1,2-Dichloropropane	< 1.0		V

REMARKS: Sample was properly preserved and in specified container. Sample was analyzed in accordance with EPA method 524.2.





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#### LABORATORY REPORT

TO: ADDRESS: Envirocon, Inc. P.O. Box 1154

Livingston, MT 59047

LAB NO.: DATE:

92-6394

03/16/92 rh

WATER ANALYSIS

Livingston/BN 140101-1003

L-87-5 Sampled 02/25/92 @ 1440 Submitted 02/27/92

Analyzed 03/02/92

Volatile Organic Constituent	<u>µg/l</u>	Volatile Organic Constituent	<u>µg/l</u>
Benzene	< 0.50	1,3-Dichloropropane	< 1.0
Bromobenzene	< 1.0	2,2-Dichloropropane	< 1.0
Bromochloromethane	< 1.0	1,1-Dichloropropene	< 1.0
Bromodichloromethane	< 1.0	cis-1,3-Dichloropropene	< 1.0
_Bromoform ·	< 1.0	trans-1,3-Dichloropropene	< 1.0
Bromomethane	< 1.0	Ethylbenzene	< 1.0
n-Butylbenzene	< 1.0	Hexachlorobutadiene	< 1.0
sec-Butylbenzene	< 1.0	Isopropylbenzene	< 1.0
tert-Butylbenzene	< 1.0	p-Isopropyltoluene	< 1.0
Carbon tetrachloride	< 0.50	Methylene chloride	<1.0
Chlorobenzene	< 1.0	Naphthalene	< 1.0
Chloroethane	< 1.0	n-Propylbenzene	< 1.0
Chloroform	< 1.0	Styrene	< 1.0
Chloromethane	< 1.0	1,1,1,2-Tetrachloroethane	< 1.0
2-Chlorotoluene	< 1.0	1,1,2,2-Tetrachloroethane	< 1.0
4-Chlorotoluene	< 1.0	Tetrachloroethene	150 *
1,2-Dibromo-3-chloropropane	< 1.0	Toluene	< 1.0
Dibromochloromethane	< 1.0	1,2,3-Trichlorobenzene	< 1.0
1,2-Dibromoethane	< 1.0	1,2,4-Trichlorobenzene	< 1.0
Dibromomethane	< 1.0	1,1,1-Trichloroethane	< 0.50
1,2-Dichlorobenzene	< 1.0	1,1,2-Trichloroethane	< 1.0
1,3-Dichlorobenzene	< 1.0	Trichloroethene	5.8
1,4-Dichlorobenzene	< 0.50	Trichlorofluoromethane	< 1.0
Dichlorodifluoromethane	< 1.0	1,2,3-Trichloropropane	< 1.0
1,1-Dichloroethane	< 1.0	1,2,4-Trimethylbenzene	< 1.0
1,2-Dichloroethane	< 0.50	1,3,5-Trimethylbenzene	< 1.0
1,1-Dichloroethene	< 0.50	Vinyl chloride	< 0.50
cis-1,2-Dichloroethene	1.9	Xylenes	< 1.0
trans-1,2-Dichloroethene	< 1.0		Ç.
1,2-Dichloropropane	< 1.0		

REMARKS: Sample was properly preserved and in specified container. Sample was analyzed in accordance with EPA method 524.2.

<sup>\*</sup> Value derived from a 10x dilution of the sample.





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#### LABORATORY REPORT

TO: ADDRESS: Envirocon, Inc. P.O. Box 1154

Livingston, MT 59047

LAB NO.: DATE:

L-88-12

# WATER ANALYSIS

Analyzed 03/02/92

Livingston/BN 140101-1004 Sampled 02/25/92 @ 1615 Submitted 02/27/92

92-6395 03/16/92 rh MAR 1 > 1992 LIVINGOCON, INC.

m 3/19/9

Volatile Organic Constituent	<u>µq/l</u>	Volatile Organic Constituent	<u>µg/l</u>
Benzene	< 0.50	1,3-Dichloropropane	< 1.0
Bromobenzene	< 1.0		
Bromochloromethane	< 1.0	1,1-Dichloropropene	< 1.0
Bromodichloromethane	< 1.0	cis-1,3-Dichloropropene	< 1.0
Bromoform	< 1.0	trans-1,3-Dichloropropene	< 1.0
Bromomethane	< 1.0	Ethylbenzene	< 1.0
h-Butylbenzene	< 1.0	Hexachlorobutadiene	< 1.0
sec-Butylbenzene	< 1.0	Isopropylbenzene	< 1.0
tert-Butylbenzene	< 1.0	p-Isopropyltoluene	< 1.0
Carbon tetrachloride	< 0.50	Methylene chloride	< 1.0
Chlorobenzene	< 1.0	Naphthalene	< 1.0
Chloroethane	< 1.0	n-Propylbenzene	< 1.0
Chloroform	< 1.0	Styrene	< 1.0
Chloromethane	< 1.0	1,1,1,2-Tetrachloroethane	< 1.0
-2-Chlorotoluene	< 1.0	1,1,2,2-Tetrachloroethane	< 1.0
4-Chlorotoluene	< 1.0	Tetrachloroethene	·120 *
1,2-Dibromo-3-chloropropane	< 1.0	Toluene	< 1.0
Dibromochloromethane	< 1.0	1,2,3-Trichlorobenzene	< 1.0
1,2-Dibromoethane	< 1.0	1,2,4-Trichlorobenzene	< 1.0
Dibromomethane	< 1.0	1,1,1-Trichloroethane	< 0.50
1,2-Dichlorobenzene	< 1.0	1,1,2-Trichloroethane	< 1.0
1,3-Dichlorobenzene	< 1.0	Trichloroethene	2.7
4-Dichlorobenzene	< 0.50	Trichlorofluoromethane	< 1.0
Dichlorodifluoromethane	< 1.0	1,2,3-Trichloropropane	< 1.0
1,1-Dichloroethane	< 1.0	1,2,4-Trimethylbenzene	< 1.0
1,2-Dichloroethane	< 0.50	1,3,5-Trimethylbenzene	< 1.0
1,1-Dichloroethene	< 0.50	Vinyl chloride	< 0.50
is-1,2-Dichloroethene	1.3	Xylenes	< 1.0
rans-1,2-Dichloroethene	< 1.0		V
1 0 5: 1:			

REMARKS: Sample was properly preserved and in specified container. Sample was analyzed in accordance with EPA method 524.2.

< 1.0

1,2-Dichloropropane

<sup>\*</sup> Value derived from a 10x dilution of the sample.





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#### LABORATORY REPORT

ADDRESS:

Envirocon, Inc. P.O. Box 1154

Livingston, MT 59047

LAB NO.: DATE:

92-6396

03/16/92 rh

WATER ANALYSIS

Livingston/BN 140101-1005

Sampled 02/25/92 @ 1620 Submitted 02/27/92

Analyzed 03/02/92

MAR ISON INC.

m 3/19/4.

Volatile Organic Constituent	<u>µa/l</u>	Volatile Organic Constituent	<u>µa/l</u>
Benze <b>ne</b>	< 0.50	1,3-Dichloropropane	< 1.0
Bromobenzene	< 1.0	2,2-Dichloropropane	< 1.0
Bromochloromethane	< 1.0	1,1-Dichloropropene	< 1.0
Bromodichloromethane	< 1.0	cis-1,3-Dichloropropene	< 1.0
Bromoform	< 1.0	trans-1,3-Dichloropropene	< 1.0
Bromomethane	< 1.0	Ethylbenzene	< 1.0
n-Butylbenzene	< 1.0	Hexachlorobutadiene	< 1.0
sec-Butylbenzene	< 1.0	Isopropylbenzene	< 1.0
tert-Butylbenzene	< 1.0	p-Isopropyltoluene	< 1.0
Carbon tetrachloride	< 0.50	Methylene chloride	< 1.0
Chlorobenzene	< 1.0	Naphthalene	< 1.0
Chloroethane	< 1.0	n-Propylbenzene	< 1.0
Chloroform	< 1.0	Styrene	< 1.0
Chloromethane	< 1.0	1,1,1,2-Tetrachloroethane	< 1.0
2-Chlorotoluene	< 1.0	1,1,2,2-Tetrachloroethane	< 1.0
4-Chlorotoluene	< 1.0	Tetrachloroethene	130 *
1,2-Dibromo-3-chloropropane	< 1.0	Toluene	< 1.0
Dibromochloromethane	< 1.0	1,2,3-Trichlorobenzene	< 1.0
1,2-Dibromoethane	< 1.0	1,2,4-Trichlorobenzene	< 1.0
Dibromomethane	< 1.0	1,1,1-Trichloroethane	< 0.50
1,2-Dichlorobenzene	< 1.0	1,1,2-Trichloroethane	< 1.0
1,3-Dichlorobenzene	< 1.0	Trichloroethene	4.4
1,4-Dichlorobenzene	< 0.50	Trichlorofluoromethane	< 1.0
Dichlorodifluoromethane	< 1.0	1,2,3-Trichloropropane	< 1.0
1,1-Dichloroethane	< 1.0	1,2,4-Trimethylbenzene	< 1.0
1,2-Dichloroethane	< 0.50	1,3,5-Trimethylbenzene	< 1.0
1,1-Dichloroethene	< 0.50	Vinyl chloride	< 0.50
cis-1,2-Dichloroethene	1.3	Xylenes	< 1.0
trans-1,2-Dichloroethene	< 1.0		V

REMARKS: Sample was properly preserved and in specified container. Sample was analyzed in accordance with EPA method 524.2.

< 1.0

1,2-Dichloropropane

<sup>\*</sup> Value derived from a 10x dilution of the sample.





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#### LABORATORY REPORT

ADDRESS:

Envirocon, Inc. P.O. Box 1154

Livingston, MT 59047

LAB NO.: DATE:

92-6397 03/16/92 rh MAR IMPROCON INTROCON MAROCON MARO

### WATER ANALYSIS

Livingston/BN 140101-1006

Submitted 02/27/92

Sampled 02/25/92 @ 1715 Analyzed 03/02/92

Volatile Organic Constituent	<i>µ</i> g/l	Volatile Organic Constituent	<u>//p</u> /l
Benzene	< 0.50	1,3-Dichloropropane	< 1.0
Bromobenzene	< 1.0	< 1.0 2,2-Dichloropropane	
Bromochloromethane	< 1.0	1,1-Dichloropropene	< 1.0
Bromodichloromethane	< 1.0	cis-1,3-Dichloropropene	< 1.0
Bromoform	< 1.0	trans-1,3-Dichloropropene	< 1.0
Bromomethane	< 1.0	Ethylbenzene	< 1.0
n-Butylbenzene	< 1.0	Hexachlorobutadiene	< 1.0
_sec-Butylbenzene	< 1.0	Isopropylbenzene	< 1.0
tert-Butylbenzene	< 1.0	p-isopropyitoluene	< 1.0
Carbon tetrachloride	< 0.50	Methylene chloride	< 1.0
Chlorobenzene	< 1.0	Naphthalene	< 1.0
Chloroethane	< 1.0	n-Propylbenzene	< 1.0
Chloroform	< 1.0	Styrene	< 1.0
_Chloromethane	< 1.0	1,1,1,2-Tetrachloroethane	< 1.0
2-Chlorotoluene	< 1.0	1,1,2,2-Tetrachloroethane	< 1.0
4-Chlorotoluene	< 1.0	Tetrachloroethene	240 *
1,2-Dibromo-3-chloropropane	< 1.0	Toluene	< 1.0
Dibromochloromethane	< 1.0	1,2,3-Trichlorobenzene	< 1.0
1,2-Dibromoethane	< 1.0	1,2,4-Trichlorobenzene	< 1.0
Dibromomethane	< 1.0	1,1,1-Trichloroethane	< 0.50
,2-Dichlorobenzene	< 1.0	1,1,2-Trichloroethane	< 1.0
🐠 ,3-Dichlorobenzene	< 1.0	Trichloroethene	5.9
1,4-Dichlorobenzene	< 0.50	Trichlorofluoromethane	< 1.0
pichlorodifluoromethane	< 1.0	1,2,3-Trichloropropane	< 1.0
1,1-Dichloroethane	< 1.0	1,2,4-Trimethylbenzene	< 1.0
1,2-Dichloroethane	< 0.50	1,3,5-Trimethylbenzene	< 1.0
1,1-Dichloroethene	< 0.50	Vinyl chloride	< 0.50
cis-1,2-Dichloroethene	13	Xylenes	< 1.0
trans-1,2-Dichloroethene	< 1.0		
1,2-Dichloropropane	< 1.0		-

REMARKS: Sample was properly preserved and in specified container. Sample was analyzed in accordance with EPA method 524.2.

<sup>\*</sup> Value derived from a 25x dilution of the sample.





P.O. BOX 30916 • 1107 SOUTH BROADWAY • BILLINGS, MT 59107-0916 • PHONE (406) 252-6325 FAX (406) 252-6069 • 1-800-735-4489

#### LABORATORY REPORT

TO: ADDRESS: Envirocon, Inc. P.O. Box 1154

Livingston, MT 59047

LAB NO.:

92-6398

DATE:

03/16/92 rh

**REVISED:** 

03/17/92 rh

#### WATER ANALYSIS

RECEIVED

Livingston/BN 140101-1007

140101-1007

Sampled 02/25/92 @ 1800 Submitted 02/27/92 Analyzed 03/02/92 MAR 1 8 1992

ENVIROCON, INC.

Volatile Organic Constituent	<u>µ</u> g/l	Volatile Organic Constituent	<u> µg/l</u>
Benzene	< 0.50	1,3-Dichloropropane	< 1.0
Bromobenzene	< 1.0	2,2-Dichloropropane	
Bromochloromethane	< 1.0	1,1-Dichloropropene	< 1.0
Bromodichloromethane	< 1.0	cis-1,3-Dichloropropene	< 1.0
Bromoform	< 1.0	trans-1,3-Dichloropropene	
Bromomethane	< 1.0	Ethylbenzene	
n-Butylbenzene	< 1.0	Hexachlorobutadiene	< 1.0
sec-Butylbenzene	< 1.0	Isopropylbenzene	< 1.0
tert-Butylbenzene	< 1.0	p-Isopropyltoluene	< 1.0
Carbon tetrachloride	< 0.50	Methylene chloride	< 1.0
Chlorobenzene	< 1.0	Naphthalene	< 1.0
Chloroethane	< 1.0	n-Propylbenzene	< 1.0
Chloroform	< 1.0	Styrene	< 1.0
Chloromethane	< 1.0	1,1,1,2-Tetrachloroethane	< 1.0
2-Chlorotoluene	< 1.0	1,1,2,2-Tetrachloroethane	< 1.0
4-Chlorotoluene	< 1.0	Tetrachloroethene	< 0.50
1,2-Dibromo-3-chloropropane	< 1.0	Toluene	< 1.0
Dibromochloromethane	< 1.0	1,2,3-Trichlorobenzene	< 1.0
,2-Dibromoethane	< 1.0	1,2,4-Trichlorobenzene	< 1.0
Dibromomethane	< 1.0	1,1,1-Trichloroethane	< 0.50
1,2-Dichlorobenzene	< 1.0	1,1,2-Trichloroethane	< 1.0
3-Dichlorobenzene	< 1.0	Trichloroethene	< 0.50
1,4-Dichlorobenzene	< 0.50	Trichlorofluoromethane	< 1.0
Pichlorodifluoromethane	< 1.0	1,2,3-Trichloropropane	< 1.0
1,1-Dichloroethane	< 1.0	1,2,4-Trimethylbenzene	< 1.0
1,2-Dichloroethane	< 0.50	1,3,5-Trimethylbenzene	< 1.0
1,1-Dichloroethene	< 0.50	Vinyl chloride	< 0.50
cis-1,2-Dichloroethene	< 1.0	Xylenes	< 1.0
trans-1,2-Dichloroethene	< 1.0		~
_1,2-Dichloropropane	< 1.0		

REMARKS: Sample was properly preserved and in specified container. Sample was analyzed in accordance with EPA method 524.2.





ENERGY LABORATORIES, INC.

P.O. BOX 30916 • 1107 SOUTH BROADWAY • BILLINGS, MT 59107-0916 • PHONE (406) 250225

FAX (406) 252-6069 • 1-800-735-400 FIVED

MAR 1 > 1992

TO: ADDRESS: Envirocon, Inc. P.O. Box 1154

Livingston, MT 59047

LAB NO.: 92-6391-98

03/16/92 rh DATE:

#### WATER ANALYSIS

Livingston/BN Sampled 02/25/92 Submitted 02/27/92 Analyzed 02/27/92

Lab No.	Identification		Total Petroleum Hydrocarbons, mg/l (ppm)
92-6391	140101-1002, Sampled @ 1405	LS-7	<0.1
92-6392	140101-1000, Sampled @ 1210	L-87-1	< 0.1
92-6393	140101-1001, Sampled @ 1310	LS-6	2.9
92-6394	140101-1003, Sampled @ 1440	L-87-5	< 0.1
92-6395	140101-1004, Sampled @ 1615		<0.1
92-6396	140101-1005, Sampled @ 1620	Klup of L-88.	-12 <0.1
92-6397	140101-1006, Sampled @ 1715	89-4	<0.1
92-6398	140101-1007, Sampled @ 1800	89-2	< 0.1
	Water Blank		<0.1
			$\sqrt{\ }$

Analysis done by EPA Method 418.1.





m 3/30/9.

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MAR 2 4 1992

ENVIROCON, Inc. Livingston, Mt.

March 23, 1992

Envirocon, Inc. P.O. Box 1154 Livingston, MT 59047

On February 28, 1992, these samples, represented by our laboratory numbers 92-6498 to 92-6509, were submitted to our laboratory for analysis.

The test results and quality assurance were reviewed and approved by the undersigned.

Reviewed by: William Br

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137 3538

150 1 1 0 0 0 0

Envirogon, Inc. P.O. Sox 1154 Livingscon, MT 69047

On February 28, 1892, these semples, regresented by our laboratory combans 92-6098 to 92-6000, were submitted to our laboratory for analysis.

the test results and quality expends were reviewed and approved by the



P.O. BOX 30916 • 1107 SOUTH BROADWAY • BILLINGS, MT 59107-0916 • PHONE (406) 252-6325 FAX (406) 252-6069 • 1-800-735-4489

#### LABORATORY REPORT

TO: ADDRESS: Envirocon, Inc. P.O. Box 1154

Livingston, MT 59047

LAB NO.:

92-6499

DATE:

03/23/92 crp

RECEIVED

m 3/30/92

WATER ANALYSIS

Livingston/BN 140101-1009

Sampled 02/26/92 @ 1015 Submitted 02/28/92 Analyzed 03/03/92 MAR 2 4 1992

ENVIROCON, Inc.

Volatile Organic Constituent	<u>μα/l</u>	Volatile Organic Constituent	<u>µg/l</u>
Benzene	< 0.50	1,3-Dichloropropane	< 1.0
Bromohenzene	< 1.0	2,2-Dichloropropane	< 1.0
Bromochloromethane	< 1.0	1,1-Dichloropropene	< 1.0
Bromodichloromethane	< 1.0	cis-1,3-Dichloropropene	< 1.0
Bromoform	< 1.0	trans-1,3-Dichloropropene	< 1.0
Bromomethane	< 1.0	Ethylbenzene	< 1.0
n-Butylbenzene	< 1.0	Hexachlorobutadiene	< 1.0
sec-Butylbenzene	< 1.0	Isopropylbenzene	< 1.0
tert-Butylbenzene	< 1.0	p-Isopropyltoluene	< 1.0
Carbon tetrachloride	< 0.50	Methylene chloride	< 1.0
Chlorobenzene	< 1.0	Naphthalene	< 1.0
Chloroethane	< 1.0	n-Propylbenzene	< 1.0
Thloroform Chloroform	< 1.0	Styrene	< 1.0
Chloromethane	< 1.0	1,1,1,2-Tetrachloroethane	< 1.0
2-Chlorotoluene	< 1.0	1,1,2,2-Tetrachloroethane	< 1.0
4-Chlorotoluene	< 1.0	Tetrachloroethene	200 *
1,2-Dibromo-3-chloropropane	< 1.0	Toluene	< 1.0
Dibromochloromethane	< 1.0	1,2,3-Trichlorobenzene	< 1.0
1,2-Dibromoethane	< 1.0	1,2,4-Trichlorobenzene	< 1.0
<b>Dibromomethane</b>	< 1.0	1,1,1-Trichloroethane	< 0.50
1,2-Dichlorobenzene	< 1.0	1,1,2-Trichloroethane	< 1.0
1,3-Dichlorobenzene	< 1.0	Trichloroethene	6.1
1,4-Dichlorobenzene	< 0.50	Trichlorofluoromethane	< 1.0
Dichlorodifluoromethane	< 1.0	1,2,3-Trichloropropane	< 1.0
_1,1-Dichloroethane	< 1.0	1,2,4-Trimethylbenzene	< 1.0
1,2-Dichloroethane	< 0.50	1,3,5-Trimethylbenzene	< 1.0
1,1-Dichloroethene	< 0.50	Vinyl chloride	< 0.50
_cis-1,2-Dichloroethene	< 1.0	Xylenes	< 1.0
trans-1,2-Dichloroethene	< 1.0		V
1,2-Dichloropropane	< 1.0		•

Value derived from a 10x dilution.





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### LABORATORY REPORT

TO:

Envirocon, Inc. P.O. Box 1154

Livingston, MT 59047

LAB NO.:

92-6500

DATE:

03/23/92 crp

REVISED:

03/24/92 crp

#### WATER ANALYSIS

Livingston/BN 140101-1010 Sampled 02/26/92 @ 1115 Submitted 02/28/92 Analyzed 03/05/92



Volatile Organic Constituent Volatile Organic Constituent <u>μ</u>α/l  $\mu q/l$ < 1.0 < 0.50 1,3-Dichloropropane Benzene < 1.0 2,2-Dichloropropane < 1.0 Bromobenzene < 1.0 1,1-Dichloropropene < 1.0 Bromochloromethane Bromodichloromethane < 1.0 cis-1,3-Dichloropropene < 1.0 **s**romoform < 1.0 trans-1,3-Dichloropropene < 1.0 Bromomethane < 1.0 Ethylbenzene < 1.0 Hexachlorobutadiene -Butylbenzene < 1.0 < 1.0 ec-Butylbenzene < 1.0 Isopropylbenzene < 1.0 p-Isopropyltoluene tert-Butylbenzene < 1.0 < 1.0 arbon tetrachloride < 0.50 Methylene chloride < 1.0 thlorobenzene < 1.0 Naphthalene < 1.0 Chloroethane < 1.0 n-Propylbenzene < 1.0 **Chloroform** < 1.0 < 1.0 Styrene thloromethane < 1.0 1,1,1,2-Tetrachloroethane < 1.0 2-Chlorotoluene < 1.0 1,1,2,2-Tetrachloroethane < 1.0 4-Chlorotoluene < 1.0 Tetrachloroethene 180 \* ,2-Dibromo-3-chloropropane < 1.0 Toluene < 1.0 Dibromochloromethane 1,2,3-Trichlorobenzene < 1.0 < 1.0 1,2-Dibromoethane < 1.0 1,2,4-Trichlorobenzene < 1.0 ibromomethane < 1.0 1,1,1-Trichloroethane < 0.50 7,2-Dichlorobenzene 1,1,2-Trichloroethane < 1.0 < 1.0 1,3-Dichlorobenzene Trichloroethene 0.58 < 1.0 .4-Dichlorobenzene Trichlorofluoromethane < 1.0 < 0.50 ichlorodifluoromethane < 1.0 1,2,3-Trichloropropane < 1.0 1,1-Dichloroethane 1,2,4-Trimethylbenzene < 1.0 < 1.0 ,2-Dichloroethane < 1.0 < 0.50 1,3,5-Trimethylbenzene 1.1-Dichloroethene < 0.50 < 0.50 Vinyl chloride cis-1,2-Dichloroethene < 1.0 < 1.0 **Xylenes** lans-1,2-Dichloroethene < 1.0 ,2-Dichloropropane < 1.0

Value derived from a 25x dilution.







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#### LABORATORY REPORT

ADDRESS:

Envirocon, Inc. P.O. Box 1154

Livingston, MT 59047

LAB NO.:

92-6500 dup

DATE:

03/23/92 crp

**REVISED:** 

03/26/92 crp

QUALITY ASSURANCE - DUPLICATE ANALYSIS

Livingston/BN 140101-1010

Sampled 02/26/92 @ 1115

Submitted 02/28/92 Analyzed 03/06/92

'MAR 3 0 1992

RECEIVED

MAROCON, Inc. ENTREMON, ME.

Volatile Organic Constituent	<u>µg/l</u>	Volatile Organic Constituent	<u>µg/l</u>
Benzene	< 0.50	1,3-Dichloropropane	< 1.0
Bromobenzene	< 1.0	2,2-Dichloropropane	< 1.0
Bromochloromethane	< 1.0	1,1-Dichloropropene	< 1.0
**Bromodichloromethane	< 1.0	cis-1,3-Dichloropropene	. < 1.0
_Bromoform	< 1.0	trans-1,3-Dichloropropene	< 1.0
Bromomethane	< 1.0	Ethylbenzene	< 1.0
n-Butylbenzene	< 1.0	Hexachlorobutadiene	< 1.0
sec-Butylbenzene	< 1.0	Isopropylbenzene	< 1.0
tert-Butylbenzene	< 1.0	p-Isopropyltoluene	< 1.0
Carbon tetrachloride	< 0.50	Methylene chloride	< 1.0
Chlorobenzene	< 1.0	Naphthalene	< 1.0
Chloroethane	< 1.0	n-Propylbenzene	< 1.0
Chloroform	< 1.0	Styrene	< 1.0
Chloromethane	< 1.0	1,1,1,2-Tetrachloroethane	< 1.0
2-Chlorotoluene	< 1.0	1,1,2,2-Tetrachloroethane	< 1.0
4-Chlorotoluene	< 1.0	Tetrachloroethene	190 *
1,2-Dibromo-3-chloropropane	< 1.0	Toluene	< 1.0
Dibromochloromethane	< 1.0	1,2,3-Trichlorobenzene	< 1.0
1,2-Dibromoethane	< 1.0	1,2,4-Trichlorobenzene	< 1.0
Dibromomethane	< 1.0	1,1,1-Trichloroethane	< 0.50
1,2-Dichlorobenzene	< 1.0	1,1,2-Trichloroethane	< 1.0
1,3-Dichlorobenzene	< 1.0	Trichloroethene	0.59
1,4-Dichlorobenzene	< 0.50	Trichlorofluoromethane	< 1.0
Dichlorodifluoromethane	< 1.0	1,2,3-Trichloropropane	< 1.0
1,1-Dichloroethane	< 1.0	1,2,4-Trimethylbenzene	< 1.0
1,2-Dichloroethane	< 0.50	1,3,5-Trimethylbenzene	< 1.0
_1,1-Dichloroethene	< 0.50	Vinyl chloride	< 0.50
cis-1,2-Dichloroethene	< 1.0	Xylenes	< 1.0
trans-1,2-Dichloroethene	< 1.0	,	
_1,2-Dichloropropane	< 1.0		





m 3/30/93 P.O. BOX 30916 • 1107 SOUTH BROADWAY • BILLINGS, MT 59107-0916 • PHONE (406) 252-6325 FAX (406) 252-6069 • 1-800-735-4489

LABORATORY REPORT

ADDRESS:

Envirocon, Inc. P.O. Box 1154 Livingston, MT 59047 LAB NO .:

-87-2

92-6501

DATE:

03/23/92 crp

RECEIVED

ENVIROCON, INC

### WATER ANALYSIS

Livingston/BN 140101-1011 Sampled 02/26/92 @ 1215 Submitted 02/28/92

Analyzed 03/05/92

<u>µ</u> g/l	Volatile Organic Constituent	<u>//g/l</u>
< 0.50	1 3-Dichloropropage	< 1.0
	• •	< 1.0
	· · · · · · · · · · · · · · · · · · ·	< 1.0
		< 1.0
		< 1.0
	· · ·	1.3
	· · · · · · · · · · · · · · · · · · ·	< 1.0
		< 1.0
		<1.0
	· · · · · · · · · · · · · · · · · · ·	< 1.0
63 *	·	< 1.0
< 1.0	·	< 1.0
< 1.0	• •	< 1.0
< 1.0	1,1,1,2-Tetrachloroethane	< 1.0
35 *	1,1,2,2-Tetrachloroethane	< 1.0
< 1.0	Tetrachloroethene	2.2
< 1.0	Toluene	< 1.0
< 1.0	1,2,3-Trichlorobenzene	< 1.0
< 1.0	1,2,4-Trichlorobenzene	< 1.0
< 1.0	1,1,1-Trichloroethane	< 0.50
3.7	1,1,2-Trichloroethane	< 1.0
< 1.0	Trichloroethene	12
3.0	Trichlorofluoromethane	< 1.0
< 1.0	1,2,3-Trichloropropane	< 1.0
< 1.0	1,2,4-Trimethylbenzene	< 1.0
< 0.50	1,3,5-Trimethylbenzene	< 1.0
< 0.50	Vinyl chloride	< 0.50
380 *	Xylenes	5.7
6.3		$\checkmark$
< 1.0		
	<0.50 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.	<pre>&lt;0.50    1,3-Dichloropropane &lt;1.0    2,2-Dichloropropane &lt;1.0    1,1-Dichloropropene &lt;1.0    cis-1,3-Dichloropropene &lt;1.0    trans-1,3-Dichloropropene &lt;1.0    Hexachlorobutadiene &lt;1.0    Hexachlorobutadiene &lt;1.0    Isopropylbenzene &lt;1.0    Isopropylbenzene &lt;1.0    P-Isopropyltoluene &lt;0.50    Methylene chloride 63 * Naphthalene &lt;1.0    n-Propylbenzene &lt;1.0    Styrene &lt;1.0    Styrene &lt;1.0    Toluene &lt;1.0    Toluene &lt;1.0    Toluene &lt;1.0    Toluene &lt;1.0    1,2,3-Trichlorobenzene &lt;1.0    1,2,4-Trichloroethane 3.7    1,1,2-Trichloroethane 3.7    1,1,2-Trichloroethane 3.7    1,1,2-Trichloroethane &lt;1.0    1,2,3-Trichloroethane &lt;1.0    1,2,3-Trichloropropane &lt;1.0    1,2,4-Trimethylbenzene &lt;0.50    Vinyl chloride 380 *    Xylenes 6.3</pre>

<sup>\*</sup> Value derived from a 25x dilution.





P.O. BOX 30916 • 1107 SOUTH BROADWAY • BILLINGS. MT 59107-0916 • PHONE (406) 252-6325 FAX (406) 252-6069 • 1-800-735-4489

-87-3

#### LABORATORY REPORT

TO: ADDRESS: Envirocon, Inc. P.O. Box 1154

Livingston, MT 59047

LAB NO.:

92-6502

**DATE:** 03/23/92 crp

WATER ANALYSIS

Livingston/BN 140101-1012

Sampled 02/26/92 @ 1250 Submitted 02/28/92 Analyzed 03/03/92 RECEIVED

MAR 2 4 1992

m 3 309:

ENVIROCON, INC.

Volatile Organic Constituent	<u>µq/l</u>	Volatile Organic Constituent	<u>ug/l</u>
Benzene	< 0.50	1,3-Dichloropropane	<1.0
Bromobenzene	< 1.0	2,2-Dichloropropane	< 1.0
Bromochloromethane	< 1.0	1,1-Dichloropropene	< 1.0
Bromodichloromethane	< 1.0	cis-1,3-Dichloropropene	< 1.0
Bromoform	< 1.0	trans-1,3-Dichloropropene	< 1.0
Bromomethane	< 1.0	Ethylbenzene	<1.0
n-Butylbenzene .	< 1.0	Hexachlorobutadiene	< 1.0
sec-Butylbenzene	< 1.0	Isopropylbenzene	< 1.0
tert-Butylbenzene	< 1.0	p-Isopropyltoluene	< 1.0
Carbon tetrachloride	< 0.50	Methylene chloride	< 1.0
Chlorobenzene	< 1.0	Naphthalene	< 1.0
Chloroethane	< 1.0	n-Propylbenzene	< 1.0
Chloroform	< 1.0	Styrene	< 1.0
Chloromethane	< 1.0	1,1,1,2-Tetrachloroethane	< 1.0
2-Chlorotoluene	< 1.0	1,1,2,2-Tetrachloroethane	< 1.0
4-Chlorotoluene	< 1.0	Tetrachloroethene	140 *
1,2-Dibromo-3-chloropropane	< 1.0	Toluene	< 1.0
Dibromochloromethane	< 1.0	1,2,3-Trichlorobenzene	< 1.0
1,2-Dibromoethane	< 1.0	1,2,4-Trichlorobenzene	< 1.0
Dibromomethane	< 1.0	1,1,1-Trichloroethane	< 0.50
1,2-Dichlorobenzene	< 1.0	1,1,2-Trichloroethane	< 1.0
1,3-Dichlorobenzene	< 1.0	Trichloroethene	12
1,4-Dichlorobenzene	< 0.50	Trichlorofluoromethane	< 1.0
Dichlorodifluoromethane	< 1.0	1,2,3-Trichloropropane	< 1.0
1,1-Dichloroethane	< 1.0	1,2,4-Trimethylbenzene	< 1.0
1,2-Dichloroethane	< 0.50	1,3,5-Trimethylbenzene	< 1.0
1,1-Dichloroethene	< 0.50	Vinyl chloride	< 0.50
_cis-1,2-Dichloroethene	57 *	Xylenes	< 1.0
trans-1,2-Dichloroethene	< 1.0	·	1
1,2-Dichloropropane	< 1.0		
•			

Value derived from a 10x dilution.





m 3/30/92

P.O. BOX 30916 • 1107 SOUTH BROADWAY • BILLINGS. MT 59107-0916 • PHONE (406) 252-6325 FAX (406) 252-6069 • 1-800-735-4489

LABORATORY REPORT

TO:

Envirocon, Inc. P.O. Box 1154

Livingston, MT 59047

LAB NO.:

92-6503

DATE:

03/23/92 crp

RECEIVED

WATER ANALYSIS

MAR 2 4 1992

Livingston/BN 140101-1013

Sampled 02/26/92 @ 1353 Submitted 02/28/92 Analyzed 03/03/92 ENVIROCON, Inc.

Volatile Organic Constituent	<u>µg/l</u>	Volatile Organic Constituent	<u>µ</u> g/l
Benzene	< 0.50	1,3-Dichloropropane	< 1.0
Bromobenzene	< 1.0	2,2-Dichloropropane	< 1.0
Bromochloromethane	< 1.0	1,1-Dichloropropene	< 1.0
Bromodichloromethane	< 1.0	cis-1,3-Dichloropropene	< 1.0
Bromoform	< 1.0	trans-1,3-Dichloropropene	< 1.0
Bromomethane	< 1.0	Ethylbenzen <b>e</b>	< 1.0
n-Butylbenzene	< 1.0	Hexachlorobutadien <b>e</b>	< 1.0
sec-Butylbenzene	< 1.0	Isopropylbenzene	< 1.0
tert-Butylbenzene	< 1.0	p-Isopropyltoluene	< 1.0
Carbon tetrachloride	< 0.50	Methylene chloride	< 1.0
Chlorobenzene	< 1.0	Naphthalene	< 1.0
Chloroethane	< 1.0	n-Propylbenzene	< 1.0
_Chloroform	< 1.0	Styrene	< 1.0
Chloromethane	< 1.0	1,1,1,2-Tetrachloroethane	< 1.0
2-Chlorotoluene	< 1.0	1,1,2,2-Tetrachloroethane	< 1.0
_4-Chlorotoluene	< 1.0	Tetrachloroethene	1.1
1,2-Dibromo-3-chloropropane	< 1.0	Toluene	< 1.0
Dibromochloromethane	< 1.0	1,2,3-Trichlorobenzene	< 1.0
1,2-Dibromoethane	< 1.0	1,2,4-Trichlorobenzene	< 1.0
Dibromomethane	< 1.0	1,1,1-Trichloroethane	< 0.50
1,2-Dichlorobenzene	< 1.0	1,1,2-Trichloroethane	< 1.0
1,3-Dichlorobenzene	< 1.0	Trichloroethene	< 0.50
1,4-Dichlorobenzene	< 0.50	Trichlorofluoromethane	< 1.0
Dichlorodifluoromethane	< 1.0	1,2,3-Trichloropropane	< 1.0
1,1-Dichloroethane	< 1.0	1,2,4-Trimethylbenzene	< 1.0
1,2-Dichloroethane	< 0.50	1,3,5-Trimethylbenzene	< 1.0
1,1-Dichloroethene	< 0.50	Vinyl chloride	< 0.50
cis-1,2-Dichloroethene	< 1.0	Xylenes	< 1.0
trans-1,2-Dichloroethene	< 1.0	·	~
1,2-Dichloropropane	< 1.0		





P.O. BOX 30916 • 1107 SOUTH BROADWAY • BILLINGS, MT 59107-0916 • PHONE (406) 252-6325 FAX (406) 252-6069 • 1-800-735-4489

#### LABORATORY REPORT

TO: ADDRESS: Envirocon, Inc. P.O. Box 1154 Livingston, MT 59047 LAB NO.: DATE:

92-6504 03/23/92 crp

RECEIVED

MAR 2 4 1992

WATER ANALYSIS

Livingston/BN 140101-1014 Sampled 02/26/92 @ 1435 Submitted 02/28/92 Analyzed 03/03/92

ENVIROCON, Inc.

Volatile Organic Constituent	<u>µg/I</u>	Volatile Organic Constituent	<u>//a/l</u>
Benzene	< 0.50	1,3-Dichloropropane	< 1.0
Bromobenzene	< 1.0	2,2-Dichloropropane	< 1.0
Bromochloromethane	< 1.0	1,1-Dichloropropene	< 1.0
Bromodichloromethane	< 1.0	cis-1,3-Dichloropropene	< 1.0
Bromoform	< 1.0	trans-1,3-Dichloropropene	< 1.0
Bromomethane	< 1.0	Ethylbenzene	< 1.0
n-Butylbenzene	< 1.0	Hexachlorobutadiene	< 1.0
sec-Butylbenzene	< 1.0	Isopropylbenzene	< 1.0
tert-Butylbenzene	< 1.0	p-isopropyltoluene	< 1.0
Carbon tetrachloride	< 0.50	Methylene chloride	< 1.0
Chlorobenzene	< 1.0	Naphthalene	< 1.0
Chloroethane	< 1.0	n-Propylbenzene	< 1.0
Chloroform	< 1.0	Styrene	< 1.0
Chloromethane	< 1.0	1,1,1,2-Tetrachloroethane	< 1.0
2-Chlorotoluene	< 1.0	1,1,2,2-Tetrachloroethane	< 1.0
4-Chlorotoluene	< 1.0	Tetrachloroethene	1.0
1,2-Dibromo-3-chloropropane	< 1.0	Toluene	< 1.0
Dibromochloromethane	< 1.0	1,2,3-Trichlorobenzene	< 1.0
1,2-Dibromoethane	< 1.0	1,2,4-Trichlorobenzene	< 1.0
Dibromomethane	< 1.0	1,1,1-Trichloroethane	< 0.50
1,2-Dichlorobenzene	< 1.0	1,1,2-Trichloroethane	< 1.0
1,3-Dichlorobenzene	< 1.0	Trichloroethene	< 0.50
1,4-Dichlorobenzene	< 0.50	Trichlorofluoromethane	< 1.0
Dichlorodifluoromethane	< 1.0	1,2,3-Trichloropropane	< 1.0
_1,1-Dichloroethane	< 1.0	1,2,4-Trimethylbenzene	< 1.0
1,2-Dichloroethane	< 0.50	1,3,5-Trimethylbenzene	< 1.0
1,1-Dichloroethene	< 0.50	Vinyl chloride	< 0.50
cis-1,2-Dichloroethene	< 1.0	Xylenes	< 1.0
trans-1,2-Dichloroethene	< 1.0		$\checkmark$
1,2-Dichloropropane	< 1.0		

REMARKS: Sample was properly preserved and in specified container. Sample was analyzed in accordance with EPA method 524.2.





m 3/30/93

P.O. BOX 30916 • 1107 SOUTH BROADWAY • BILLINGS. MT 59107-0916 • PHONE (406) 252-6325 FAX (406) 252-6069 • 1-800-735-4489

LABORATORY REPORT

TO: ADDRESS: Envirocon, Inc. P.O. Box 1154

Livingston, MT 59047

LAB NO.:

92-6505

DATE:

03/23/92 crp

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MAR 2 4 1992

ENVIROCON, Ind.

#### WATER ANALYSIS

Livingston/BN 140101-1015
Sampled 02/26/92 @ 1535
Submitted 02/28/92
Analyzed 03/03/92

Volatile Organic Constituent	<u>µ</u> g/l	Volatile Organic Constituent	<u>µg/l</u>
Benzene	< 0.50	1,3-Dichloropropane	< 1.0
Bromobenzene	< 1.0	2,2-Dichloropropane	< 1.0
Bromochloromethane	< 1.0	1,1-Dichloropropene	< 1.0
Bromodichloromethane	< 1.0	cis-1,3-Dichloropropene	< 1.0
Bromoform	< 1.0	trans-1,3-Dichloropropene	< 1.0
Bromomethane	< 1.0	Ethylbenzene	< 1.0
n-Butylbenzene	< 1.0	Hexachlorobutadiene	< 1.0
sec-Butylbenzene	< 1.0	Isopropylbenzene	< 1.0
tert-Butylbenzene	< 1.0	p-Isopropyltoluene	< 1.0
Carbon tetrachloride	< 0.50	Methylene chloride	< 1.0
Chlorobenzene	< 1.0	Naphthalene	< 1.0
Chloroethane	< 1.0	n-Propylbenzene	< 1.0
Chloroform	< 1.0	Styrene	< 1.0
Chloromethane	< 1.0	1,1,1,2-Tetrachloroethane	< 1.0
2-Chlorotoluene	< 1.0	1,1,2,2-Tetrachloroethane	< 1.0
4-Chlorotoluene	< 1.0	Tetrachloroethene	0.52
1,2-Dibromo-3-chloropropane	< 1.0	Toluene	< 1.0
Dibromochloromethane	< 1.0	1,2,3-Trichlorobenzene	< 1.0
≥1,2-Dibromoethane	< 1.0	1,2,4-Trichlorobenzene	< 1.0
Dibromomethane	< 1.0	1,1,1-Trichloroethane	< 0.50
1,2-Dichlorobenzene	< 1.0	1,1,2-Trichloroethane	< 1.0
1,3-Dichlorobenzene	< 1.0	Trichloroethene	< 0.50
1,4-Dichlorobenzene	< 0.50	Trichlorofluoromethane	< 1.0
Dichlorodifluoromethane	< 1.0	1,2,3-Trichloropropane	< 1.0
_1,1-Dichloroethane	< 1.0	1,2,4-Trimethylbenzene	< 1.0
1,2-Dichloroethane	< 0.50	1,3,5-Trimethylbenzene	< 1.0
1,1-Dichloroethene	< 0.50	Vinyl chloride	< 0.50
_cis-1,2-Dichloroethene	< 1.0	Xylenes	< 1.0
trans-1,2-Dichloroethene	< 1.0	·	$\checkmark$
1,2-Dichloropropane	< 1.0		





m 3/30/92 P.O. BOX 30916 • 1107 SOUTH BROADWAY • BILLINGS, MT 59107-0916 • PHONE (406) 252-6325 FAX (406) 252-6069 • 1-800-735-4489

#### LABORATORY REPORT

TO: ADDRESS:

Envirocon, Inc. P.O. Box 1154

Livingston, MT 59047

LAB NO.:

92-6506

DATE:

03/23/92 crp

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WATER ANALYSIS

L-87-4 Livingston/BN 140101-1016

Sampled 02/26/92 @ 1635 Submitted 02/28/92 Analyzed 03/03/92

MAR 2 4 1992

ENVIROCON, Inc. Livingston, Mt.

Volatile Organic Constituent	<u>µg/l</u>	Volatile Organic Constituent	<u>µg/l</u>
Benzene	< 0.50	1,3-Dichloropropane	< 1.0
Bromobenzene	< 1.0	2,2-Dichloropropane	< 1.0
Bromochloromethane	< 1.0	1,1-Dichloropropene	< 1.0
Bromodichloromethane	< 1.0	cis-1,3-Dichloropropene	< 1.0
Bromoform	< 1.0	trans-1,3-Dichloropropene	< 1.0
Bromomethane	< 1.0	Ethylbenzene	< 1.0
n-Butylbenzene	< 1.0	Hexachlorobutadiene	< 1.0
sec-Butylbenzene	< 1.0	Isopropylbenzene	< 1.0
tert-Butylbenzene	< 1.0	p-Isopropyltoluene	< 1.0
Carbon tetrachloride	< 0.50	Methylene chloride	< 1.0
Chlorobenzene	< 1.0	Naphthalene	< 1.0
Chloroethane	< 1.0	n-Propylbenzene	< 1.0
Chloroform	< 1.0	Styrene	< 1.0
Chloromethane	< 1.0	1,1,1,2-Tetrachloroethane	< 1.0
2-Chlorotoluene	< 1.0	1,1,2,2-Tetrachloroethane	< 1.0
4-Chlorotoluene	< 1.0	Tetrachloroethene	< 0.50
1,2-Dibromo-3-chloropropane	< 1.0	Toluene	< 1.0
Dibromochloromethane	< 1.0	1,2,3-Trichlorobenzene	< 1.0
_1,2-Dibromoethane	< 1.0	1,2,4-Trichlorobenzene	< 1.0
Dibromomethane	< 1.0	1,1,1-Trichloroethane	< 0.50
1,2-Dichlorobenzene	< 1.0	1,1,2-Trichloroethane	< 1.0
_1,3-Dichlorobenzene	< 1.0	Trichloroethene	< 0.50
1,4-Dichlorobenzene	< 0.50	Trichlorofluoromethane	< 1.0
Dichlorodifluoromethane	< 1.0	1,2,3-Trichloropropane	< 1.0
1,1-Dichloroethane	< 1.0	1,2,4-Trimethylbenzene	< 1.0
1,2-Dichloroethane	< 0.50	1,3,5-Trimethylbenzene	< 1.0
1,1-Dichloroethene	< 0.50	Vinyl chloride	< 0.50
cis-1,2-Dichloroethene	< 1.0	Xylenes	< 1.0
trans-1,2-Dichloroethene	< 1.0	·	V
1,2-Dichloropropane	< 1.0		·





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### LABORATORY REPORT

TO: ADDRESS: Envirocon, Inc. P.O. Box 1154

Livingston, MT 59047

LAB NO.:

92-6507

DATE:

-87-7

03/23/92 crp

WATER ANALYSIS

Livingston/BN 140101-1017

Sampled 02/26/92 @ 1716 Submitted 02/28/92 Analyzed 03/04/92 RECEIVED

MAR 2 4 1992

ENVIROCON, INC.

Volatile Organic Constituent	<u>µg/l</u>	Volatile Organic Constituent	<u>µg/l</u>
Benzene	< 0.50	1,3-Dichloropropane	< 1.0
Bromobenzene	< 1.0	2,2-Dichloropropane	< 1.0
Bromochloromethane	< 1.0	1,1-Dichloropropene	< 1.0
Bromodichloromethane	< 1.0	cis-1,3-Dichloropropene	< 1.0
Bromoform	< 1.0	trans-1,3-Dichloropropene	<1.0
Bromomethane	< 1.0	Ethyl <b>ben</b> zene	< 1.0
n-Butylbenzene	< 1.0	Hexachlorobutadiene	< 1.0
sec-Butylbenzene	1.8	Isopropylbenzene	2.4
tert-Butylbenzene	< 1.0	p-Isopropyltoluene	< 1.0
Carbon tetrachloride	< 0.50	Methylene chloride	< 1.0
Chlorobenzene	< 1.0	Naphthalene	4.2
Chloroethane	< 1.0	n-Propylbenzene	< 1.0
Chloroform	< 1.0	Styrene	< 1.0
Chloromethane	< 1.0	1,1,1,2-Tetrachloroethane	< 1.0
2-Chlorotoluene	< 1.0	1,1,2,2-Tetrachloroethane	< 1.0
4-Chlorotoluene	< 1.0	Tetrachloroethene	< 0.50
1,2-Dibromo-3-chloropropane	< 1.0	Toluene	< 1.0
Dibromochloromethane	< 1.0	1,2,3-Trichlorobenzene	< 1.0
1,2-Dibromoethane	< 1.0	1,2,4-Trichlorobenzene	< 1.0
Dibromomethane	< 1.0	1,1,1-Trichloroethane	< 0.50
1,2-Dichlorobenzene	< 1.0	1,1,2-Trichloroethane	< 1.0
1,3-Dichlorobenzene	< 1.0	Trichloroethene	< 0.50
1,4-Dichlorobenzene	< 0.50	Trichlorofluoromethane	< 1.0
Dichlorodifluoromethane	< 1.0	1,2,3-Trichloropropane	< 1.0
_1,1-Dichloroethane	< 1.0	1,2,4-Trimethylbenzene	< 1.0
1,2-Dichloroethane	< 0.50	1,3,5-Trimethylbenzene	< 1.0
1,1-Dichloroethene	< 0.50	Vinyl chloride	< 0.50
_ cis-1,2-Dichloroethene	< 1.0	Xylenes	< 1.0
trans-1,2-Dichloroethene	< 1.0		$\vee$
1,2-Dichloropropane	< 1.0		





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### LABORATORY REPORT

TO: IADDRESS: Envirocon, Inc. P.O. Box 1154

Livingston, MT 59047

LAB NO.:

92-6508

DATE:

-87-8

03/23/92 crp

# RECEIVED

### WATER ANALYSIS

Livingston/BN 140101-1018

Sampled 02/26/92 @ 1755 Submitted 02/28/92 Analyzed 03/04/92 MAR 2 4 1992

ENVIROCON, Inc.

Volatile Organic Constituent	<u>µg/l</u>	Volatile Organic Constituent	<u>µg/l</u>
Benzene	< 0.50	1,3-Dichloropropane	< 1.0
Bromobenzene	< 1.0	2,2-Dichloropropane	< 1.0
Bromochloromethane	< 1.0°	1,1-Dichloropropene	< 1.0
3romodichloromethane	< 1.0	cis-1,3-Dichloropropene	< 1.0
Bromoform	< 1.0	trans-1,3-Dichloropropene	< 1.0
Bromomethane	< 1.0	Ethylbenzene	< 1.0
-n-Butylbenzene	< 1.0	Hexachlorobutadiene	< 1.0
sec-Butylbenzene	< 1.0	Isopropylbenzene	< 1.0
tert-Butylbenzene	< 1.0	p-isopropyltoluene	< 1.0
Carbon tetrachloride	< 0.50	Methylene chloride	< 1.0
- Chlorobenzene	< 1.0	Naphthalene	< 1.0
Chloroethane	< 1.0	n-Propylbenzene	< 1.0
Chloroform	2.3	Styrene	< 1.0
Chloromethane	< 1.0	1,1,1,2-Tetrachloroethane	< 1.0
2-Chlorotoluene	< 1.0	1,1,2,2-Tetrachloroethane	< 1.0
4-Chlorotoluene	< 1.0	Tetrachloroethene	16
1,2-Dibromo-3-chloropropane	< 1.0	Toluene	< 1.0
Dibromochloromethane	< 1.0	1,2,3-Trichlorobenzene	< 1.0
1,2-Dibromoethane	< 1.0	1,2,4-Trichlorobenzene	< 1.0
Dibromomethane	< 1.0	1,1,1-Trichloroethane	< 0.50
.2-Dichlorobenzene	< 1.0	1,1,2-Trichloroethane	< 1.0
_1,3-Dichlorobenzene	< 1.0	Trichloroethene	7.0
,4-Dichlorobenzene	< 0.50	Trichlorofluoromethane	< 1.0
Dichlorodifluoromethane	< 1.0	1,2,3-Trichloropropane	< 1.0
1,1-Dichloroethane	< 1.0	1,2,4-Trimethylbenzene	< 1.0
1,2-Dichloroethane	< 0.50	1,3,5-Trimethylbenzene	< 1.0
1,1-Dichloroethene	< 0.50	Vinyl chloride	< 0.50
cis-1,2-Dichloroethene	12	Xylenes	< 1.0
errans-1,2-Dichloroethene	< 1.0		L
1,2-Dichloropropane	< 1.0		





m 3/34 93 P.O. BOX 30916 • 1107 SOUTH BROADWAY • BILLINGS, MT 59107-0916 • PHONE (406) 252-6325 FAX (406) 252-6069 • 1-800-735-4489

#### LABORATORY REPORT

TO: ADDRESS: Envirocon, Inc. P.O. Box 1154

Livingston, MT 59047

LAB NO.:

92-6509

DATE:

03/23/92 crp

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WATER ANALYSIS

Livingston/BN 140101-1019

L-88-13 Sampled 02/26/92 @ 1830 Submitted 02/28/92 Analyzed 03/10/92

MAR 2 4 1992

ENVIROCON. Inc. Livingston, Mt.

s.			
Volatile Organic Constituent	<u>µ</u> q/l	Volatile Organic Constituent	<u>µg/l</u>
Benzene	< 0.50	1,3-Dichloropropane	< 1.0
Bromobenzene	< 1.0	2,2-Dichloropropane	< 1.0
Bromochloromethane	< 1.0	1,1-Dichloropropene	< 1.0
Bromodichloromethane	< 1.0	cis-1,3-Dichloropropene	< 1.0
Bromoform	< 1.0	trans-1,3-Dichloropropene	< 1.0
Bromomethane	< 1.0	Ethylbenzene	< 1.0
n-Butylbe <b>n</b> zene	< 1.0	Hexachlorobutadiene	< 1.0
sec-Butylbenzene	< 1.0	Isopropylbenzene	< 1.0
tert-Butylbenzene	< 1.0	p-Isopropyltoluene	< 1.0
Carbon tetrachloride	< 0.50	Methylene chloride	< 1.0
Chlorobenzene	< 1.0	Naphthalene	< 1.0
Chloroethane	< 1.0	n-Propylbenzene	< 1.0
Chloroform	3.1	Styrene	< 1.0
Chloromethane	< 1.0	1,1,1,2-Tetrachloroethane	< 1.0
2-Chlorotoluene	< 1.0	1,1,2,2-Tetrachloroethane	< 1.0
4-Chlorotoluene	< 1.0	Tetrachloroethene	19 *
1,2-Dibromo-3-chloropropane	< 1.0	Toluene	< 1.0
Dibromochloromethane	< 1.0	1,2,3-Trichlorobenzene	< 1.0
_1,2-Dibromoethane	< 1.0	1,2,4-Trichlorobenzene	< 1.0
Dibromomethane	< 1.0	1,1,1-Trichloroethane	< 0.50
1,2-Dichlorobenzene	< 1.0	1,1,2-Trichloroethane	< 1.0
_1,3-Dichlorobenzene	< 1.0	Trichloroethene	5.0
1,4-Dichlorobenzene	< 0.50	Trichlorofluoromethane	< 1.0
Dichlorodifluoromethane	< 1.0	1,2,3-Trichloropropane	< 1.0
1,1-Dichloroethane	< 1.0	1,2,4-Trimethylbenzene	< 1.0
1,2-Dichloroethane	< 0.50	1,3,5-Trimethylbenzene	< 1.0
1,1-Dichloroethene	< 0.50	Vinyl chloride	< 0.50
cis-1,2-Dichloroethene	14	Xylenes	< 1.0
etrans-1,2-Dichloroethene	< 1.0	,	v
1,2-Dichloropropane	< 1.0		

<sup>\*</sup> Value derived from a 5x dilution.





P.O. BOX 30916 • 1107 SOUTH BROADWAY • BILLINGS, MT 59107-0916 • PHONE (406) 252 FAX (406) 252-6069 • 1-800-735-

#### LABORATORY REPORT

TO: ADDRESS:

Envirocon, Inc. P.O. Box 1154

Livingston, MT 59047

LAB NO.: 92-6499 -509 DATE:

03/02/92 rh

**REVISED:** 03/24/92 crp

### **WATER ANALYSIS**

Livingston/BN Sampled 02/26/92 Submitted 02/28/92 Analyzed 03/02/92

Lab No.	Identification	Total Petroleum Hydrocarbons, mg/l (ppm)
92-6499	140101-1009, Sampled @ 1015 87-7	0.3
92-6500	140101-1010, Sampled @ 1115 89 3	<0.1
92-6501	140101-1011, Sampled @ 1215 <u>/</u> - %7-3	2.8
92-6502	140101-1012, Sampled @ 1250 上-87-5	<0.1
92-6503	140101-1013, Sampled @ 1353 😤 🍳	< 0.1
92-6504	140101-1014, Sampled @ 1435 73 4.	<0.1
92-6505	140101-1015, Sampled @ 1535 == 5	< 0.1
92-6506	140101-1016, Sampled @ 1635 L-87-4	< 0.1
92-6507	140101-1017, Sampled @ 1716 \(\L^{-\gamma}\)\[7'\]	0.5
92-6508	140101-1018, Sampled @ 1755	2.9
92-6509	140101-1019, Sampled @ 1830 \( \L - \& \& \L \)	0.1
Blank	Method Blank	<0.1
		$\mathcal{J}$

NOTE: Analysis done by EPA method 418.1.





m 3 30/9.

P.O. BOX 30916 • 1107 SOUTH BROADWAY • BILLINGS, MT 59107-0916 • PHONE (406) 252-6325 FAX (406) 252-6069 • 1-800-735-4489

MAR 2 5 1992 ENVIROCON, Inc.

March 24, 1992

Envirocon, Inc. P.O. Box 1154 Livingston, MT 59047

On March 2, 1992, these samples, represented by our laboratory numbers 92-8615 to 92-8626, were submitted to our laboratory for analysis.

The test results and quality assurance were reviewed and approved by the undersigned.

Reviewed by: Willian Bran

Maints 24, 1982

Maints 25, 1882

Maints 26, 1882

Maints

On March 2, 1993, these samples, represented by our tablestery almost energies so.

eril til devengge bna hawelver arev bane uses yrilsup bna stiuser talt ant

Serieured by Miller 12



P.O. BOX 30916 • 1107 SOUTH BROADWAY • BILLINGS, MT 59107-0916 • PHONE (406) 252-6325 FAX (406) 252-6069 • 1-800-735-4489

#### LABORATORY REPORT

TO: ADDRESS:

Envirocon, Inc. P.O. Box 1154

Livingston, MT 59047

LAB NO.: DATE:

Valatile Organia Constituent

92-8616

03/24/92 crp

### WATER ANALYSIS

Livingston/BN, Project #140101 140101-1021 Sampled 02/27/92 @ 0945 Submitted 03/02/92 Analyzed 03/10/92



m 3/30/92

Volatile Organic Constituent	<u>µg/l</u>	Volatile Organic Constituent	<u>/g/l</u>
Benzene	< 0.50	1,3-Dichloropropane	< 1.0
dromobenzene dromobenzene	< 1.0	2,2-Dichloropropane	< 1.0
Bromochloromethane	< 1.0	1,1-Dichloropropene	< 1.0
romodichloromethane	< 1.0	cis-1,3-Dichloropropene	< 1.0
sromoform	< 1.0	trans-1,3-Dichloropropene	< 1.0
Bromomethane	< 1.0	Ethylbenzene	< 1.0
<b>-</b> Butylbenzene	< 1.0	Hexachlorobutadiene	< 1.0
ec-Butylbenzene	< 1.0	Isopropylbenzene	< 1.0
tert-Butylbenzene	< 1.0	p-Isopropyltoluene	< 1.0
🚅 arbon tetrachloride	< 0.50	Methylene chloride	< 1.0
thlorobenzene	< 1.0	Naphthalene	< 1.0
Chloroethane	< 1.0	n-Propylbenzene	< 1.0
<b>€</b> hloroform	< 1.0	Styrene	< 1.0
Chloromethane	< 1.0	1,1,1,2-Tetrachloroethane	< 1.0
2-Chlorotoluene	< 1.0	1,1,2,2-Tetrachloroethane	< 1.0
4-Chlorotoluene	< 1.0	Tetrachloroethene	0.86
,2-Dibromo-3-chloropropane	< 1.0	Toluene	< 1.0
Dibromochloromethane	< 1.0	1,2,3-Trichlorobenzene	< 1.0
1,2-Dibromoethane	< 1.0	1,2,4-Trichlorobenzene	< 1.0
)ibromometh <b>ane</b>	< 1.0	1,1,1-Trichloroethane	< 0.50
,2-Dichlorobenzene	< 1.0	1,1,2-Trichloroethane	< 1.0
1,3-Dichlorobenzene	< 1.0	Trichloroethene	< 0.50
,4-Dichlorobenzene	< 0.50	Trichlorofluoromethane	< 1.0
ichlorodifluor <b>o</b> meth <b>a</b> ne	< 1.0	1,2,3-Trichloropropane	< 1.0
1,1-Dichloroethane	< 1.0	1,2,4-Trimethylbenzene	< 1.0
,2-Dichloroethane	< 0.50	1,3,5-Trimethylbenzene	< 1.0
,1-Dichloroethene	< 0.50	Vinyl chloride	< 0.50
cis-1,2-Dichloroethene	< 1.0	Xylenes	< 1.0
rans-1,2-Dichloroethene	< 1.0	,	V
,2-Dichloropropane	< 1.0		





W3/20192 P.O. BOX 30916 • 1107 SOUTH BROADWAY • BILLINGS, MT 59107-0916 • PHONE (406) 252-6325 FAX (406) 252-6069 • 1-800-735-4489

#### LABORATORY REPORT

TO: ADDRESS: Envirocon, Inc. P.O. Box 1154

Livingston, MT 59047

LAB NO.: DATE:

92-8617

03/24/92 crp

# WATER ANALYSIS

Livingston/BN, Project #140101 140101-1022 Sampled 02/27/92 @ 1020 Submitted 03/02/92 Analyzed 03/10/92



Volatile Organic Constituent	<u>µ</u> g/l	Volatile Organic Constituent	<u>µg/l</u>
Benzene	< 0.50	1,3-Dichloropropane	< 1.0
Bromobenzene	< 1.0	2,2-Dichloropropane	< 1.0
Bromochloromethane	< 1.0	1,1-Dichloropropene	< 1.0
Bromodichloromethane	< 1.0	cis-1,3-Dichloropropene	< 1.0
Bromoform	< 1.0	trans-1,3-Dichloropropene	< 1.0
Bromomethane	< 1.0	Ethylbenzene	< 1.0
n-Butylbenzene	< 1.0	Hexachlorobutadiene	< 1.0
sec-Butylbenzene	< 1.0	Isopropylbenzene	< 1.0
tert-Butylbenzene	< 1.0	p-Isopropyltoluene	< 1.0
Carbon tetrachloride	< 0.50	Methylene chloride	< 1.0
Chlorobenzene	< 1.0	Naphthalene	< 1.0
Chloroethane	< 1.0	n-Propylbenzene	< 1.0
Chloroform	< 1.0	Styrene	< 1.0
Chloromethane	< 1.0	1,1,1,2-Tetrachloroethane	< 1.0
2-Chlorotoluene	< 1.0	1,1,2,2-Tetrachloroethane	< 1.0
4-Chlorotoluene	< 1.0	Tetrachloroethene	33 *
1,2-Dibromo-3-chloropropane	< 1.0	Toluene	< 1.0
Dibromochloromethane	< 1.0	1,2,3-Trichlorobenzene	< 1.0
2-Dibromoethane	< 1.0	1,2,4-Trichlorobenzene	< 1.0
Dibromomethane	< 1.0	1,1,1-Trichloroethane	< 0.50
1,2-Dichlorobenzene	< 1.0	1,1,2-Trichloroethane	< 1.0
3-Dichlorobenzene,	< 1.0	Trichloroethene	2.3
1,4-Dichlorobenzene	< 0.50	Trichlorofluoromethane	< 1.0
Dichlorodifluoromethane	< 1.0	1,2,3-Trichloropropane	< 1.0
1-Dichloroethane	< 1.0	1,2,4-Trimethylbenzene	< 1.0
1,2-Dichloroethane	< 0.50	1,3,5-Trimethylbenzene	< 1.0
,1-Dichloroethene	< 0.50	Vinyl chloride	< 0.50
is-1,2-Dichloroethene	4.6	Xylenes	< 1.0
trans-1,2-Dichloroethene	< 1.0	·	$\nu$
,2-Dichloropropane	< 1.0		

Value derived from a 5x dilution.





m 3/30/42 P.O. BOX 30916 • 1107 SOUTH BROADWAY • BILLINGS, MT 59107-0916 • PHONE (406) 252-6325

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#### LABORATORY REPORT

TO: NDDRESS: Envirocon, Inc. P.O. Box 1154

Livingston, MT 59047

LAB NO.:

92-8618

DATE:

03/24/92 crp

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ENVIROCON, Inc. Livingston, Me.

### WATER ANALYSIS

Livingston/BN, Project #140101 140101-1023 Sampled 02/27/92 @ 1050 Submitted 03/02/92 Analyzed 03/10/92

Volatile Organic Constituent	<u>//g/l</u>	Volatile Organic Constituent	<u>µg/l</u>
Benzene	< 0.50	1,3-Dichloropropane	< 1.0
romobenzene 3romobenzene	< 1.0	2,2-Dichloropropane	< 1.0
3romochloromethane	< 1.0	1,1-Dichloropropene	< 1.0
Bromodichloromethane	< 1.0	cis-1,3-Dichloropropene	< 1.0
3romoform	< 1.0	trans-1,3-Dichloropropene	< 1.0
3romomethane	< 1.0	Ethylbenzene	<1.0
n-Butylbenzene	< 1.0	Hexachlorobutadiene	< 1.0
ec-Butylbenzene	< 1.0	Isopropylbenzene	< 1.0
ert-Butylbenzene	< 1.0	p-Isopropyltoluene	< 1.0
Carbon tetrachloride	< 0.50	Methylene chloride	< 1.0
Chlorobenzene	< 1.0	Naphthalene	< 1.0
Chloroethane	< 1.0	n-Propylbenzene	< 1.0
Chloroform	< 1.0	Styrene	<1.0
Chloromethane	< 1.0	1,1,1,2-Tetrachloroethane	<1.0
2-Chlorotoluene	< 1.0	1,1,2,2-Tetrachloroethane	<1.0
4-Chlorotoluene	< 1.0	Tetrachloroethene	4.0
2-Dibromo-3-chloropropane	< 1.0	Toluene	<1.0
Dibromochloromethane	< 1.0	1,2,3-Trichlorobenzene	<1.0
,2-Dibromoethane	< 1.0	1,2,4-Trichlorobenzene	< 1.0
Dibromomethane	< 1.0	1,1,1-Trichloroethane	< 0.50
,2-Dichlorobenzene	< 1.0	1,1,2-Trichloroethane	< 1.0
,3-Dichlorobenzene	< 1.0	Trichloroethene	< 0.50
_1,4-Dichlorobenzene	< 0.50	Trichlorofluoromethane	< 1.0
ichlorodifluoromethane	< 1.0	1,2,3-Trichloropropane	< 1.0
,1-Dichloroethane	< 1.0	1,2,4-Trimethylbenzene	< 1.0
_1,2-Dichloroethane	< 0.50	1,3,5-Trimethylbenzene	< 1.0
,1-Dichloroethene	< 0.50	Vinyl chloride	< 0.50
is-1,2-Dichloroethene	< 1.0	Xylenes	< 1.0
trans-1,2-Dichloroethene	< 1.0	77,07,00	V 1.0
2-Dichloropropane	< 1.0		•
	~ 1.0		





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#### LABORATORY REPORT

TO:

Envirocon, Inc. P.O. Box 1154

Livingston, MT 59047

LAB NO.:

92-8619

DATE:

03/24/92 crp

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ENVIROCON, Inc. Livingston, Mc.

### WATER ANALYSIS

Livingston/BN, Project #140101 140101-1024 Sampled 02/27/92 @ 1055 Submitted 03/02/92 Analyzed 03/10/92

Volatile Organic Constituent	<u>µ</u> g/l	Volatile Organic Constituent	<u>µ</u> g/l
Benzene	< 0.50	1,3-Dichloropropane	<1.0
3Bromobenzene	< 1.0	2,2-Dichloropropane	< 1.0
Bromochloromethane	< 1.0	1,1-Dichloropropene	< 1.0
Bromodichloromethane	< 1.0	cis-1,3-Dichloropropene	< 1.0
3Bromoform	< 1.0	trans-1,3-Dichloropropene	< 1.0
<b>™</b> Bromomethane	< 1.0	Ethylbenzene	< 1.0
n-Butylbenzene	< 1.0	Hexachlorobutadiene	< 1.0
sec-Butylbenzene	< 1.0	Isopropylbenzene	< 1.0
tert-Butylbenzene	< 1.0	p-Isopropyltoluene	< 1.0
Carbon tetrachloride	< 0.50	Methylene chloride	< 1.0
<b>Chlorobenzene</b>	< 1.0	Naphthalene	< 1.0
Chloroethane	< 1.0	n-Propylbenzene	< 1.0
Chloroform	< 1.0	Styrene	< 1.0
Chloromethane	< 1.0	1,1,1,2-Tetrachloroethane	< 1.0
2-Chlorotoluene	< 1.0	1,1,2,2-Tetrachloroethane	< 1.0
4-Chlorotoluene	< 1.0	Tetrachloroethene	4,1
1,2-Dibromo-3-chloropropane	< 1.0	Toluene	< 1.0
Dibromochloromethane	< 1.0	1,2,3-Trichlorobenzene	< 1.0
1,2-Dibromoethane	< 1.0	1,2,4-Trichlorobenzene	< 1.0
Dibromomethane	< 1.0	1,1,1-Trichloroethane	< 0.50
1,2-Dichlorobenzene	< 1.0	1,1,2-Trichloroethane	< 1.0
1,3-Dichlorobenzene	< 1.0	Trichloroethene	< 0.50
1,4-Dichlorobenzene	< 0.50	Trichlorofluoromethane	< 1.0
Dichlorodifluoromethane	< 1.0	1,2,3-Trichloropropane	< 1.0
1,1-Dichloroethane	< 1.0	1,2,4-Trimethylbenzene	< 1.0
1,2-Dichloroethane	< 0.50	1,3,5-Trimethylbenzene	< 1.0
1,1-Dichloroethene	< 0.50	Vinyl chloride	< 0.50
cis-1,2-Dichloroethene	< 1.0	Xylenes	< 1.0
trans-1,2-Dichloroethene	< 1.0	·	V
1,2-Dichloropropane	< 1.0		





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#### LABORATORY REPORT

TO:

Envirocon, Inc. P.O. Box 1154

Livingston, MT 59047

LAB NO.:

92-8620

DATE:

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ENVIROCON, Inc.

### WATER ANALYSIS

Livingston/BN, Project #140101 140101-1025 Sampled 02/27/92 @ 1238 Submitted 03/02/92 Analyzed 03/09/92

olatile Organic Constituent	<u>µ</u> g/l	Volatile Organic Constituent	<u>//a/l</u>
Benzene	< 0.50	1,3-Dichloropropane	< 1.0
Bromobenzene	< 1.0	2,2-Dichloropropane	< 1.0
Bromochloromethane	< 1.0	1,1-Dichloropropene	< 1.0
Bromodichloromethane	< 1.0	cis-1,3-Dichloropropene	< 1.0
⊪3romoform	< 1.0	trans-1,3-Dichloropropene	< 1.0
-Bromomethane	< 1.0	Ethylbenzene	< 1.0
n-Butylbenzene	< 1.0	Hexachlorobutadiene	< 1.0
nec-Butylbenze <b>ne</b>	< 1.0	Isopropylbenzene	< 1.0
ert-Butylbenzene	< 1.0	p-Isopropyltoluene	< 1.0
Carbon tetrachloride	< 0.50	Methylene chloride	< 1.0
<b>T</b> hlorobenzene	8.7	Naphthalene	< 1.0
Chloroethane	< 1.0	n-Propylbenzene	< 1.0
Chloroform	1.1	Styrene	< 1.0
hloromethane	< 1.0	1,1,1,2-Tetrachloroethane	< 1.0
-Chlorotoluene	< 1.0	1,1,2,2-Tetrachloroethane	< 1.0
4-Chlorotoluene	< 1.0	Tetrachloroethene	115 *
,2-Dibromo-3-chloropropane	< 1.0	Toluene	< 1.0
Dibromochloromethane	< 1.0	1,2,3-Trichlorobenzene	< 1.0
1,2-Dibromoethane	< 1.0	1,2,4-Trichlorobenzene	< 1.0
<b>_</b> Dibromomethane	< 1.0	1,1,1-Trichloroethane	< 0.50
,2-Dichlorobenzene	1.0	1,1,2-Trichloroethane	< 1.0
,3-Dichlorobenzene	< 1.0	Trichloroethene	16
_1,4-Dichlorobenzene	1.3	Trichlorofluoromethane	< 1.0
pichlorodifluoromethane	< 1.0	1,2,3-Trichloropropane	< 1.0
1-Dichloroethane	< 1.0	1,2,4-Trimethylbenzene	< 1.0
_1,2-Dichloroethane	< 0.50	1,3,5-Trimethylbenzene	< 1.0
,1-Dichloroethene	< 0.50	Vinyl chloride	< 0.50
his-1,2-Dichloroethene	184 *	Xylenes	< 1.0
trans-1,2-Dichloroethene	1.3		$\checkmark$
,2-Dichloropropane	< 1.0		

<sup>\*</sup> Value derived from a 25x dilution.





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LABORATORY REPORT

TO: ADDRESS: Envirocon, Inc. P.O. Box 1154

Livingston, MT 59047

LAB NO.:

92-8620 dup

DATE:

L-88-10

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m 3 3042

ENVIROCON, Inc.

# QUALITY ASSURANCE - DUPLICATE ANALYSIS

Livingston/BN, Project #140101 140101-1025 Sampled 02/27/92 @ 1238 Submitted 03/02/92 Analyzed 03/10/92

Volatile Organic Constituent	<u>µg/l</u>	Volatile Organic Constituent	<u>µ</u> g/l
_Benzene	< 0.50	1,3-Dichloropropane	< 1.0
3romobenzen <b>e</b>	< 1.0	2,2-Dichloropropane	< 1.0
-3romochloromethane	< 1.0	1,1-Dichloropropene	< 1.0
Bromodichloromethane	< 1.0	cis-1,3-Dichloropropene	< 1.0
3romoform	< 1.0	trans-1,3-Dichloropropene	< 1.0
<b>S</b> romomethane	< 1.0	Ethylbenzene	< 1.0
n-Butylbenzene	< 1.0	Hexachlorobutadiene	< 1.0
ec-Butylbenzene	< 1.0	Isopropylbenzene	< 1.0
ert-Butylbenzene	< 1.0	p-Isopropyltoluene	< 1.0
Carbon tetrachloride	< 0.50	Methylene chloride	< 1.0
Chlorobenzene	8.7	Naphthalene	< 1.0
Chloroethane	< 1.0	n-Propylbenzene	< 1.0
Chloroform	1.1	Styrene	< 1.0
-Chloromethane	< 1.0	1,1,1,2-Tetrachloroethane	< 1.0
2-Chlorotoluene	< 1.0	1,1,2,2-Tetrachloroethane	< 1.0
4-Chlorotoluene	< 1.0	Tetrachloroethene	112 *
1,2-Dibromo-3-chloropropane	< 1.0	Toluene	< 1.0
Dibromochloromethane	< 1.0	1,2,3-Trichlorobenzene	< 1.0
1,2-Dibromoethane	< 1.0	1,2,4-Trichlorobenzene	< 1.0
_Dibromomethane	< 1.0	1,1,1-Trichloroethane	< 0.50
,2-Dichlorobenzene	1.0	1,1,2-Trichloroethane	< 1.0
3-Dichlorobenzene	< 1.0	Trichloroethene	16
_1,4-Dichlorobenzene	1.4	Trichlorofluoromethane	< 1.0
Dichlorodifluoromethane	< 1.0	1,2,3-Trichloropropane	< 1.0
1-Dichloroethane	< 1.0	1,2,4-Trimethylbenzene	< 1.0
1,2-Dichloroethane	< 0.50	1,3,5-Trimethylbenzene	< 1.0
,1-Dichloroethene	< 0.50	Vinyl chloride	< 0.50
lis-1,2-Dichloroethene	175 *	Xylenes	< 1.0
trans-1,2-Dichloroethene	1.3	,	ر ۲.0 د
2-Dichloropropane	< 1.0		

Value derived from a 25x dilution.



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#### LABORATORY REPORT

TO: ADDRESS: Envirocon, Inc. P.O. Box 1154

Livingston, MT 59047

LAB NO.:

92-8621

**DATE:** 03/24/92 crp

WATER ANALYSIS

Livingston/BN, Project #140101 140101-1026 Sampled 02/27/92 @ 1400 Submitted 03/02/92 Analyzed 03/09/92 RECEIVED

MAR 2 5 1992

ENVIROCON, Inc. Livingston, Mt.

Volatile Organic Constituent	<u>µg/l</u>	Volatile Organic Constituent	<u> µg/l</u>
Benzene	< 0.50	1,3-Dichloropropane	<1.0
Bromobenzene	< 1.0	2,2-Dichloropropane	< 1.0
Bromochloromethane	< 1.0	1,1-Dichloropropene	< 1.0
Bromodichloromethane	< 1.0	cis-1,3-Dichloropropene	< 1.0
Bromoform	< 1.0	trans-1,3-Dichloropropene	< 1.0
Bromomethane	< 1.0	Ethylbenzene	< 1.0
n-Butylbenzene	< 1.0	Hexachlorobutadiene	< 1.0
sec-Butylbenzene	< 1.0	Isopropylbenzene	< 1.0
tert-Butylbenzene	< 1.0	p-Isopropyltoluene	< 1.0
Carbon tetrachloride	< 0.50	Methylene chloride	< 1.0
Chlorobenzene	< 1.0	Naphthalene	< 1.0
Chloroethane	< 1.0	n-Propylbenzene	< 1.0
Chloroform	< 1.0	Styrene	< 1.0
Chloromethane	< 1.0	1,1,1,2-Tetrachloroethane	< 1.0
2-Chlorotoluene	< 1.0	1,1,2,2-Tetrachloroethane	< 1.0
4-Chlorotoluene	< 1.0	Tetrachloroethene	< 0.50
1,2-Dibromo-3-chloropropane	< 1.0	Toluene	< 1.0
Dibromochloromethane	< 1.0	1,2,3-Trichlorobenzene	< 1.0
_1,2-Dibromoethane	< 1.0	1,2,4-Trichlorobenzene	< 1.0
Dibromomethane	< 1.0	1,1,1-Trichloroethane	< 0.50
1,2-Dichlorobenzene	< 1.0	1,1,2-Trichloroethane	< 1.0
_1,3-Dichlorobenzene	< 1.0	Trichloroethene	< 0.50
1,4-Dichlorobenzene	< 0.50	Trichlorofluoromethane	< 1.0
Dichlorodifluoromethane	< 1.0	1,2,3-Trichloropropane	< 1.0
1,1-Dichloroethane	< 1.0	1,2,4-Trimethylbenzene	< 1.0
1,2-Dichloroethane	< 0.50	1,3,5-Trimethylbenzene	< 1.0
,1-Dichloroethene	< 0.50	Vinyl chloride	< 0.50
cis-1,2-Dichloroethene	< 1.0	Xylenes	< 1.0
rans-1,2-Dichloroethene	< 1.0	,	
,2-Dichloropropane	< 1.0		





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#### LABORATORY REPORT

TO: ADDRESS: Envirocon, Inc. P.O. Box 1154

Livingston, MT 59047

LAB NO.:

92-8622

DATE:

03/24/92 crp

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EMPROCON, Inc.

#### WATER ANALYSIS

Livingston/BN, Project #140101 140101-1027 Sampled 02/27/92 @ 1500 Submitted 03/02/92 Analyzed 03/10/92

Volatile Organic Constituent	<u>µg/l</u>	Volatile Organic Constituent	<u>µ</u> g/l
Benzene	< 0.50	1,3-Dichloropropane	< 1.0
Bromobenzene	< 1.0	2,2-Dichloropropane	< 1.0
Bromochloromethane	< 1.0°	1,1-Dichloropropene	< 1.0
Bromodichloromethane	< 1.0	cis-1,3-Dichloropropene	< 1.0
Bromoform	< 1.0	trans-1,3-Dichloropropene	< 1.0
Bromomethane	< 1.0	Ethylbenzene	< 1.0
n-Butylbenzene	< 1.0	Hexachlorobutadiene	< 1.0
sec-Butylbenzene	< 1.0	Isopropylbenzene	< 1.0
tert-Butylbenzene	< 1.0	p-Isopropyltoluene	< 1.0
Carbon tetrachloride	< 0.50	Methylene chloride	< 1.0
Chlorobenzene	< 1.0	Naphthalene	< 1.0
Chloroethane	< 1.0	n-Propylbenzene	< 1.0
Chloroform	< 1.0	Styrene	< 1.0
<b>Chloromethane</b>	< 1.0	1,1,1,2-Tetrachloroethane	< 1.0
2-Chlorotoluene	< 1.0	1,1,2,2-Tetrachloroethane	< 1.0
4-Chlorotoluene	< 1.0	Tetrachloroethene	< 0.50
1,2-Dibromo-3-chloropropane	< 1.0	Toluene	<1.0
Dibromochloromethane	< 1.0	1,2,3-Trichlorobenzene	<1.0
1,2-Dibromoethane	< 1.0	1,2,4-Trichlorobenzene	<1.0
Dibromomethane	< 1.0	1,1,1-Trichloroethane	< 0.50
1,2-Dichlorobenzene	< 1.0	1,1,2-Trichloroethane	< 1.0
1,3-Dichlorobenzene	< 1.0	Trichloroethene	< 0.50
1,4-Dichlorobenzene	< 0.50	Trichlorofluoromethane	< 1.0
Dichlorodifluoromethane	< 1.0	1,2,3-Trichloropropane	< 1.0
1,1-Dichloroethane	< 1.0	1,2,4-Trimethylbenzene	< 1.0
1,2-Dichloroethane	< 0.50	1,3,5-Trimethylbenzene	<1.0
1,1-Dichloroethene	< 0.50	Vinyl chloride	< 0.50
cis-1,2-Dichloroethene	< 1.0	Xylenes	< 1.0
rans-1,2-Dichloroethene	< 1.0	,	V
1,2-Dichloropropane	< 1.0		
	· -		





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#### LABORATORY REPORT

TO: ADDRESS: Envirocon, Inc. P.O. Box 1154

Livingston, MT 59047

LAB NO.:

92-8623

DATE:

03/24/92 crp

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WATER ANALYSIS

MAR 2 5 1992

Livingston/BN, Project #140101 140101-1028 Sampled 02/27/92 @ 1610 Submitted 03/02/92 Analyzed 03/09/92 ENVIROCON, Inc.

Volatile Organic Constituent	<u>µg/l</u>	Volatile Organic Constituent	<u>µg/l</u>
Benzene	< 0.50	1,3-Dichloropropane	<1.0
Bromobenzene	< 1.0	2,2-Dichloropropane	< 1.0
Bromochloromethane	< 1.0	1,1-Dichloropropene	< 1.0
Bromodichloromethane	< 1.0	cis-1,3-Dichloropropene	< 1.0
<b>B</b> romoform	< 1.0	trans-1,3-Dichloropropene	< 1.0
Bromomethane	< 1.0	Ethylbenzene	< 1.0
n-Butylbenzene	< 1.0	Hexachlorobutadiene	< 1.0
ec-Butylbenzene	< 1.0	Isopropylbenzene	< 1.0
tert-Butylbenzene	< 1.0	p-Isopropyltoluene	< 1.0
Carbon tetrachloride	< 0.50	Methylene chloride	< 1.0
Chlorobenzene	< 1.0	Naphthalene	< 1.0
Chloroethane	< 1.0	n-Propylbenzene	< 1.0
Chloroform	< 1.0	Styrene	< 1.0
Chloromethane	< 1.0	1,1,1,2-Tetrachloroethane	< 1.0
2-Chlorotoluene	< 1.0	1,1,2,2-Tetrachloroethane	< 1.0
4-Chlorotoluene	< 1.0	Tetrachloroethene	1.5
,2-Dibromo-3-chloropropane	< 1.0	Toluene	< 1.0
Dibromochloromethane	< 1.0	1,2,3-Trichlorobenzene	< 1.0
_1,2-Dibromoethane	< 1.0	1,2,4-Trichlorobenzene	< 1.0
Pibromomethane	< 1.0	1,1,1-Trichloroethane	< 0.50
,2-Dichlorobenzene	< 1.0	1,1,2-Trichloroethane	< 1.0
_1,3-Dichlorobenzene	< 1.0	Trichloroethene	< 0.50
,4-Dichlorobenzene	< 0.50	Trichlorofluoromethane	< 1.0
Dichlorodifluoromethane	< 1.0	1,2,3-Trichloropropane	< 1.0
1,1-Dichloroethane	< 1.0	1,2,4-Trimethylbenzene	< 1.0
,2-Dichloroethane	< 0.50	1,3,5-Trimethylbenzene	< 1.0
,1-Dichloroethene	< 0.50	Vinyl chloride	< 0.50
cis-1,2-Dichloroethene	< 1.0	Xylenes	< 1.0
rans-1,2-Dichloroethene	< 1.0		$\vee$
,2-Dichloropropane	< 1.0		





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#### LABORATORY REPORT

ADDRESS:

Envirocon, Inc. P.O. Box 1154

Livingston, MT 59047

LAB NO.:

92-8624

DATE:

03/24/92 crp

RECEIVED

WATER ANALYSIS

MAR 2 5 1992

Livingston/BN, Project #140101 140101-1029 Sampled 02/27/92 @ 1655 Submitted 03/02/92

Analyzed 03/10/92

ENVIROCON, Inc.

Volatile Organic Constituent	<u>µg/l</u>	Volatile Organic Constituent	<u>//g/l</u>
Benzene	< 0.50	1,3-Dichloropropane	< 1.0
-3romobenzene	< 1.0	2,2-Dichloropropane	< 1.0
Bromochloromethane	< 1.0	1,1-Dichloropropene	< 1.0
Bromodichloromethane	< 1.0	cis-1,3-Dichloropropene	< 1.0
<b>■</b> romoform	< 1.0	trans-1,3-Dichloropropene	< 1.0
Bromomethane	< 1.0	Ethylbenzene	< 1.0
n-Butylbenzene	< 1.0	Hexachlorobutadiene	< 1.0
ec-Butylbenzene	< 1.0	Isopropyibenzene	< 1.0
tert-Butylbenzene	< 1.0	p-Isopropyltoluene	< 1.0
arbon tetrachloride	< 0.50	Methylene chloride	< 1.0
hlorobenzene	28 *	Naphthalene	< 1.0
Chloroethane	< 1.0	n-Propylbenzene	< 1.0
<b>⊋</b> hloroform	< 1.0	Styrene	< 1.0
Chloromethane	< 1.0	1,1,1,2-Tetrachloroethane	< 1.0
2-Chlorotoluene	< 1.0	1,1,2,2-Tetrachloroethane	< 1.0
-4-Chlorotoluene	< 1.0	Tetrachloroethene	74 *
,2-Dibromo-3-chloropropane	< 1.0	Toluene	< 1.0
Dibromochloromethane	< 1.0	1,2,3-Trichlorobenzene	< 1.0
,2-Dibromoethane	< 1.0	1,2,4-Trichlorobenzene	< 1.0
ibromomethane	< 1.0	1,1,1-Trichloroethane	< 0.50
,2-Dichlorobenzene	< 1.0	1,1,2-Trichloroethane	< 1.0
_1,3-Dichlorobenzene	< 1.0	Trichloroethene	13
,4-Dichlorobenzene	3.7	Trichlorofluoromethane	< 1.0
ichlorodifluoromethane	< 1.0	1,2,3-Trichloropropane	< 1.0
1,1-Dichloroethane	< 1.0	1,2,4-Trimethylbenzene	< 1.0
,2-Dichloroethane	< 0.50	1,3,5-Trimethylbenzene	< 1.0
,1-Dichloroethene	< 0.50	Vinyl chloride	< 0.50
cis-1,2-Dichloroethene	78 *	Xylenes	< 1.0
ans-1,2-Dichloroethene	2.5	•	
,2-Dichloropropane	< 1.0		

Value derived from a 10x dilution.

REMARKS: Sample was properly preserved and in specified container. Sample was analyzed in accordance vith EPA method 524.2.





P.O. BOX 30916 • 1107 SOUTH BROADWAY • BILLINGS, MT 59107-0916 • PHONE (406) 252-6325 FAX (406) 252-6069 • 1-800-735-4489

#### LABORATORY REPORT

TO: ADDRESS: Envirocon, Inc. P.O. Box 1154

Livingston, MT 59047

LAB NO.:

92-8625

DATE:

03/24/92 crp

### **WATER ANALYSIS**

Livingston/BN, Project #140101 140101-1030 Sampled 02/27/92 @ 1745 Submitted 03/02/92 Analyzed 03/10/92



Volatile Organic Constituent	<u>µg/l</u>	Volatile Organic Constituent	<u>µg/l</u>
Benzene	< 0.50	1,3-Dichloropropane	< 1.0
Bromobenzene	< 1.0	2,2-Dichloropropane	< 1.0
Bromochloromethane	< 1.0	1,1-Dichloropropene	< 1.0
Bromodichloromethane	< 1.0	cis-1,3-Dichloropropene	< 1.0
Bromoform	< 1.0	trans-1,3-Dichloropropene	< 1.0
Bromomethane	< 1.0	Ethylbenzene	<1.0
n-Butylbenzene	< 1.0	Hexachlorobutadiene	< 1.0
sec-Butylbenzene	< 1.0	Isopropylbenzene	< 1.0
tert-Butylbenzene	< 1.0	p-Isopropyltoluene	< 1.0
Carbon tetrachloride	< 0.50	Methylene chloride	< 1.0
Chlorobenzene	44 *	Naphthalene	< 1.0
Chloroethane	< 1.0	n-Propylbenzene	< 1.0
Chloroform	< 1.0	Styrene	< 1.0
Chloromethane	< 1.0	1,1,1,2-Tetrachloroethane	< 1.0
2-Chlorotoluene	< 1.0	1,1,2,2-Tetrachloroethane	< 1.0
4-Chlorotoluene	< 1.0	Tetrachloroethene	38 *
1,2-Dibromo-3-chloropropane	< 1.0	Toluene	< 1.0
Dibromochloromethane	< 1.0	1,2,3-Trichlorobenzene	< 1.0
_1,2-Dibromoethane	< 1.0	1,2,4-Trichlorobenzene	< 1.0
Dibromomethane	< 1.0	1,1,1-Trichloroethane	< 0.50
1,2-Dichlorobenzene	< 1.0	1,1,2-Trichloroethane	< 1.0
_1,3-Dichlorobenzene	< 1.0	Trichloroethene	8.8
1,4-Dichlorobenzene	9.8	Trichlorofluoromethane	< 1.0
Dichlorodifluoromethane	< 1.0	1,2,3-Trichloropropane	< 1.0
1,1-Dichloroethane	< 1.0	1,2,4-Trimethylbenzene	< 1.0
1,2-Dichloroethane	< 0.50	1,3,5-Trimethylbenzene	< 1.0
1,1-Dichloroethene	< 0.50	Vinyl chloride	< 0.50
cis-1,2-Dichloroethene	73 *	Xylenes	< 1.0
atrans-1,2-Dichloroethene	1.4	·	~

<sup>\*</sup> Value derived from a 10x dilution.

1,2-Dichloropropane

REMARKS: Sample was properly preserved and in specified container. Sample was analyzed in accordance with EPA method 524.2.





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#### LABORATORY REPORT

TO:

Envirocon, Inc. P.O. Box 1154

Livingston, MT 59047

LAB NO.:

92-8626

DATE: 03/24/92 crp

RECEIVED MAR 2

m 3 30/92

ENVIROCON, Inc.

### WATER ANALYSIS

Livingston/BN, Project #140101 140101-1031 90-3 Sampled 02/27/92 @ 1840 Submitted 03/02/92 Analyzed 03/10/92

Volatile Organic Constituent	<u>µ</u> q/l	Volatile Organic Constituent	<u>µg</u> /l
Benzene	< 0.50	1,3-Dichloropropane	< 1.0
-Bromobenzene	< 1.0	2,2-Dichloropropane	< 1.0
Bromochloromethane	< 1.0	1,1-Dichloropropene	< 1.0
Bromodichloromethane	< 1.0	cis-1,3-Dichloropropene	< 1.0
Bromoform	< 1.0	trans-1,3-Dichloropropene	< 1.0
Bromomethane	< 1.0	Ethylbenzene	< 1.0
-Butylbenzene	< 1.0	Hexachlorobutadiene	< 1.0
ec-Butylbenzene	< 1.0	Isopropylbenzene	< 1.0
tert-Butylbenzene	< 1.0	p-Isopropyltoluene	< 1.0
arbon tetrachloride	< 0.50	Methylene chloride	< 1.0
Chlorobenzene	< 1.0	Naphthalene	< 1.0
Chloroethane	< 1.0	n-Propylbenzene	< 1.0
<b>_</b> Chloroform	< 1.0	Styrene	< 1.0
Chloromethane	< 1.0	1,1,1,2-Tetrachloroethane	< 1.0
2-Chlorotoluene	< 1.0	1,1,2,2-Tetrachloroethane	< 1.0
4-Chlorotoluene	< 1.0	Tetrachloroethene	12
2-Dibromo-3-chloropropane	< 1.0	Toluene	< 1.0
Dibromochloromethane	< 1.0	1,2,3-Trichlorobenzene	< 1.0
_1,2-Dibromoethane	< 1.0	1,2,4-Trichlorobenzene	< 1.0
pibromomethane	< 1.0	1,1,1-Trichloroethane	< 0.50
,2-Dichlorobenzene	< 1.0	1,1,2-Trichloroethane	< 1.0
_1,3-Dichlorobenzene	< 1.0	Trichloroethene	3.0
,4-Dichlorobenzene	< 0.50	Trichlorofluoromethane	< 1.0
ichlorodifluoromethane	< 1.0	1,2,3-Trichloropropane	< 1.0
1,1-Dichloroethane	< 1.0	1,2,4-Trimethylbenzene	< 1.0
,2-Dichloroethane	< 0.50	1,3,5-Trimethylbenzene	< 1.0
,1-Dichloroethene	< 0.50	Vinyl chloride	< 0.50
cis-1,2-Dichloroethene	3.8	Xylenes	< 1.0
arans-1,2-Dichloroethene	< 1.0		$\checkmark$
,2-Dichloropropane	< 1.0		





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#### LABORATORY REPORT

TO: ADDRESS: Envirocon, Inc. P.O. Box 1154

Livingston, MT 59047

LAB NO.: 92-8616 -26 DATE: 03/24/92 crp

MAR 25 1992

### **WATER ANALYSIS**

Livingston/BN, Project #140101 Sampled 02/27/92 Submitted 03/02/92 Analyzed 03/03/92

Lab No.	Identification		Total Petroleum Hydrocarbons, mg/l (ppm)
92-8616	140101-1021, Sampled @ 0945	)	0.4
92-8617	140101-1022, Sampled @ 1020	POTW	< 0.1
92-8618	140101-1023, Sampled @ 1050	#7	< 0.1
92-8619	140101-1024, Sampled @ 1055	Dupof #7	< 0.1
92-8620	140101-1025, Sampled @ 1238	T-88-10	< 0.1
92-8621	140101-1026, Sampled @ 1400	89-11	< 0.1
92-8622	140101-1027, Sampled @ 1500	L6-10	< 0.1
92-8623	140101-1028, Sampled @ 1610	#6	< 0.1
92-8624	140101-1029, Sampled @ 1655	LS-8	< 0.1
92-8625	140101-1030, Sampled @ 1745	LS-11	< 0.1
92-8626	140101-1031, Sampled @ 1840	90-3	<0.1
Blank	Method Blank		< 0.1
			. /

NOTE: Analysis done by EPA method 418.1.





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### LABORATORY REPORT

TO: ADDRESS:

Envirocon, Inc. P.O. Box 1154

Livingston, MT 59047

LAB NO.: 92-8624 DATE: 03/10/92 rh

WATER ANALYSIS

Submitted 03/02/92

Livingston/BN

Project # 140101

140101-1029

Sampled 02/27/92 @ 1655



Constituent	mg/l (ppm)	Date <u>Analyzed</u>
Potassium	4	03/05/92
Sodium	44	03/05/92
Calcium	100	03/05/92
Magnesium	26	03/05/92
Sulfate	76	03/04/92
Chloride	18	03/04/92
Carbonate	0	03/05/92
Bicarbonate	435	03/05/92
Total Alkalinity as CaCO <sub>3</sub>	357	03/05/92
Nitrate plus Nitrite as N	0.94	03/03/92
Dissolved Metals		
Aluminum	< 0.1	03/04/92
Iron	< 0.03	03/04/92
Manganese	< 0.02	03/04/92
Silica	33.0	03/04/92





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#### LABORATORY REPORT

TO: ADDRESS:

Envirocon, Inc. P.O. Box 1154

Livingston, MT 59047

LAB NO.: 92-8625 DATE: 03/10/92 rh

WATER ANALYSIS

Livingston/BN
Project # 140101
140101-1030
Sampled 02/27/92 @ 1745
Submitted 03/02/92

MAR 25 1000 ENVIROCON, Inc.

Constituent	mg/l (ppm)	Date <u>Analyzed</u>
Potassium	4	03/05/92
Sodium	44	03/05/92
Calcium	98	03/05/92
Magnesium	28	03/05/92
Sulfate	77	03/04/92
Chloride	18	03/04/92
Carbonate	0	03/05/92
Bicarbonate	438	03/05/92
Total Alkalinity as CaCO <sub>3</sub>	359	03/05/92
Nitrate plus Nitrite as N	0.67	03/03/92
Dissolved Metals		
Aluminum	< 0.1	03/04/92
Iron	< 0.03	03/04/92
Manganese	0.98	03/04/92
Silica	34.6	03/04/92
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#### LABORATORY REPORT

TO: ADDRESS: Envirocon, Inc. P.O. Box 1154

Livingston, MT 59047

LAB NO .: 92-8626

DATE:

92-8626 03/10/92 rh MAR 2 5 1992 Livingston, Mr.

### WATER ANALYSIS

Livingston/BN Project # 140101 140101-1031 Sampled 02/27/92 @ 1840 Submitted 03/02/92

Constituent	mg/l (ppm)	Date <u>Analyzed</u>
Potassium	4	03/05/92
Sodium	32	03/05/92
Calcium	70	03/05/92
Magnesium	21	03/05/92
Sulfate	49	03/04/92
Chloride	13	03/04/92
~Carbonate	0	03/05/92
Bicarbonate	315	03/05/92
Total Alkalinity as CaCO <sub>3</sub>	258	03/05/92
Nitrate plus Nitrite as N	0.17	03/03/92
Dissolved Metals		
Aluminum	< 0.1	03/04/92
Iron	< 0.03	03/04/92
Manganese	< 0.02	03/04/92
Silica	31.2	03/04/92





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MAR 3 0 1992

ENVIROCON INC.
LIVINGSTON, ME.

March 26, 1992

Envirocon, Inc. P.O. Box 1154 Livingston, MT 59047

On March 2, 1992, these samples, represented by our laboratory numbers 92-8645 to 92-8652 were submitted to our laboratory for analysis.

The test results and quality assurance were reviewed and approved by the undersigned.

Reviewed by: Jan Standars





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#### LABORATORY REPORT

ADDRESS:

1,2-Dichloropropane

Envirocon, Inc. P.O. Box 1154

Livingston, MT 59047

LAB NO.: 92-8646

DATE: 03/26/92 rh

WATER ANALYSIS

Equip Blank Livingston/BN 140101-1037 Sampled 02/28/92 Submitted 03/02/92 Analyzed 03/12/92

RECEIVED

ENVIROCON, Inc.

Volatile Organic Constituent	<u>µg/l</u>	Volatile Organic Constituent	<u>µg/l</u>
Benzene	< 0.50	1,3-Dichloropropane	< 1.0
Bromobenzene	< 1.0	2,2-Dichloropropane	< 1.0
Bromochloromethane	< 1.0	1,1-Dichloropropene	< 1.0
Bromodichloromethane	< 1.0	cis-1,3-Dichloropropene	< 1.0
Bromoform	< 1.0	trans-1,3-Dichloropropene	< 1.0
Bromomethane	< 1.0	Ethylbenzene	< 1.0
n-Butylbenzene	< 1.0	Hexachlorobutadiene	< 1.0
sec-Butylbenzene	< 1.0	Isopropylbenzene	< 1.0
tert-Butylbenzene	< 1.0	p-Isopropyltoluene	< 1.0
Carbon tetrachloride	< 0.50	Methylene chloride	< 1.0
Chlorobenzene	< 1.0	Naphthalene	< 1.0
Chloroethane	< 1.0	n-Propylbenzene	< 1.0
Chloroform	< 1.0	Styrene	< 1.0
Chloromethane	< 1.0	1,1,1,2-Tetrachloroethane	< 1.0
2-Chlorotoluene	< 1.0	1,1,2,2-Tetrachloroethane	< 1.0
4-Chlorotoluene	< 1.0	Tetrachloroethene	< 0.50
1,2-Dibromo-3-chloropropane	< 1.0	Toluene	1.1
Dibromochloromethane	< 1.0	1,2,3-Trichlorobenzene	< 1.0
1,2-Dibromoethane	< 1.0	1,2,4-Trichlorobenzene	< 1.0
Dibromomethane	< 1.0	1,1,1-Trichloroethane	< 0.50
1,2-Dichlorobenzene	< 1.0	1,1,2-Trichloroethane	< 1.0
_1,3-Dichlorobenzene	< 1.0	Trichloroethene	< 0.50
1,4-Dichlorobenzene	< 0.50	Trichlorofluoromethane	< 1.0
Dichlorodifluoromethane	< 1.0	1,2,3-Trichloropropane	< 1.0
1,1-Dichloroethane	< 1.0	1,2,4-Trimethylbenzene	< 1.0
1,2-Dichloroethane	< 0.50	1,3,5-Trimethylbenzene	< 1.0
1,1-Dichloroethene	< 0.50	Vinyl chloride	< 0.50
cis-1,2-Dichloroethene	< 1.0	Xylenes	< 1.0
itrans-1,2-Dichloroethene	< 1.0		L
	-		

REMARKS: Sample was properly preserved and in specified container. Sample was analyzed in accordance with EPA method 524.2.





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#### LABORATORY REPORT

ADDRESS:

Envirocon, Inc. P.O. Box 1154

Livingston, MT 59047

LAB NO.: 92-8647 DATE: 03/26/92 rh

WATER ANALYSIS

89-1 Livingston/BN 140101-1033 Sampled 02/28/92 Submitted 03/02/92 Analyzed 03/12/92

RECEIVED MAR 3 0 1992 ENVIROCON, Inc.

Volatile Organic Constituent	<u>µa/l</u>	Volatile Organic Constituent	<u>//g/l</u>
Benzene	< 0.50	1,3-Dichloropropane	< 1.0
Bromobenzene	< 1.0	2,2-Dichloropropane	< 1.0
Bromochloromethane	< 1.0	1,1-Dichloropropene	< 1.0
Bromodichloromethane	< 1.0	cis-1,3-Dichloropropene	< 1.0
Bromoform	< 1.0	trans-1,3-Dichloropropene	<1.0
Bromomethane	< 1.0	Ethylbenzene	< 1.0
n-Butylbenzene	< 1.0	Hexachlorobutadiene	< 1.0
sec-Butylbenzene	< 1.0	Isopropylbenzene	< 1.0
tert-Butylbenzene	< 1.0	p-Isopropyltoluene	< 1.0
Carbon tetrachloride	< 0.50	Methylene chloride	< 1.0
Chlorobenzene	< 1.0	Naphthalene	< 1.0
Chloroethane	< 1.0	n-Propylbenzene	< 1.0
Chloroform	< 1.0	Styrene	< 1.0
Chloromethane	< 1.0	1,1,1,2-Tetrachloroethane	< 1.0
2-Chlorotoluene	< 1.0	1,1,2,2-Tetrachloroethane	< 1.0
-4-Chlorotoluene	< 1.0	Tetrachloroethene	9.6
,2-Dibromo-3-chloropropane	< 1.0	Toluene	< 1.0
Dibromochloromethane	< 1.0	1,2,3-Trichlorobenzene	< 1.0
,2-Dibromoethane	< 1.0	1,2,4-Trichlorobenzene	<1.0
Dibromomethane	< 1.0	1,1,1-Trichloroethane	< 0.50
,2-Dichlorobenzene	< 1.0	1,1,2-Trichloroethane	< 1.0
_1,3-Dichlorobenzene	< 1.0	Trichloroethene	< 0.50
,4-Dichlorobenzene	< 0.50	Trichlorofluoromethane	< 1.0
Dichlorodifluoromethane	< 1.0	1,2,3-Trichloropropane	< 1.0
_1,1-Dichloroethane	< 1.0	1,2,4-Trimethylbenzene	< 1.0
,2-Dichloroethane	< 0.50	1,3,5-Trimethylbenzene	< 1.0
,1-Dichloroethene	< 0.50	Vinyl chloride	< 0.50
cis-1,2-Dichloroethene	< 1.0	Xylenes	< 1.0
rans-1,2-Dichloroethene	< 1.0		<b>L</b>
🛂 ,2-Dichloropropane	< 1.0		

REMARKS: Sample was properly preserved and in specified container. Sample was analyzed in accordance with EPA method 524.2.





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#### LABORATORY REPORT

ADDRESS:

Envirocon, Inc. P.O. Box 1154

Livingston, MT 59047

LAB NO.: 92-8648

DATE: 03/26/92 rh

WATER ANALYSIS

Livingston/BN 140101-1034

Sampled 02/28/92 Submitted 03/02/92 Analyzed 03/12/92

MAR = 0 1992

ENVIROCON, INC.

Volatile Organic Constituent	<u>/lg/l</u>	Volatile Organic Constituent	<u>µg/l</u>
3enzene	< 0.50	1,3-Dichloropropane	<1.0
Bromobenzene	< 1.0	2,2-Dichloropropane	< 1.0
Bromochloromethane	< 1.0	1,1-Dichloropropene	< 1.0
Bromodichloromethane	< 1.0	cis-1,3-Dichloropropene	< 1.0
Bromoform	< 1.0	trans-1,3-Dichloropropene	< 1.0
Bromomethane	< 1.0	Ethylbenzene	< 1.0
h-Butylbenzene	< 1.0	Hexachlorobutadiene	< 1.0
sec-Butylbenzene	< 1.0	Isopropylbenzene	< 1.0
tert-Butylbenzene	< 1.0	p-Isopropyltoluene	< 1.0
Carbon tetrachloride	< 0.50	Methylene chloride	< 1.0
Chlorobenzene	< 1.0	Naphthalene	< 1.0
Chloroethane	< 1.0	n-Propylbenzene	< 1.0
Chloroform	< 1.0	Styrene	< 1.0
Chloromethane	< 1.0	1,1,1,2-Tetrachloroethane	< 1.0
2-Chlorotoluene	< 1.0	1,1,2,2-Tetrachloroethane	< 1.0
1-Chlorotoluene	< 1.0	Tetrachloroethene	0.72
,2-Dibromo-3-chloropropane	< 1.0	Toluene	< 1.0
Dibromochloromethane	< 1.0	1,2,3-Trichlorobenzene	< 1.0
,2-Dibromoethane	< 1.0	1,2,4-Trichlorobenzene	< 1.0
pibromomethane	< 1.0	1,1,1-Trichloroethane	< 0.50
1,2-Dichlorobenzene	< 1.0	1,1,2-Trichloroethane	< 1.0
- 3-Dichlorobenzene	< 1.0	Trichloroethene	< 0.50
,4-Dichlorobenzene	< 0.50	Trichlorofluoromethane	< 1.0
Dichlorodifluoromethane	< 1.0	1,2,3-Trichloropropane	< 1.0
1,1-Dichloroethane	< 1.0	1,2,4-Trimethylbenzene	< 1.0
,2-Dichloroethane	< 0.50	1,3,5-Trimethylbenzene	< 1.0
1,1-Dichloroethene	< 0.50	Vinyl chloride	< 0.50
cis-1,2-Dichloroethene	< 1.0	Xylenes	< 1.0
rans-1,2-Dichloroethene	< 1.0	,	L
,2-Dichloropropane	< 1.0		

REMARKS: Sample was properly preserved and in specified container. Sample was analyzed in accordance with EPA method 524.2.





M 3 304:

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89-6

#### LABORATORY REPORT

TO: ADDRESS:

,2-Dichloropropane

Envirocon, Inc. P.O. Box 1154

Livingston, MT 59047

LAB NO.: 92-8649

DATE: 03/26/92 rh

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MAR 3 0 1992

ENVIROCON, INC.

### WATER ANALYSIS

Livingston/BN 140101-1035 Sampled 02/28/92 Submitted 03/02/92 Analyzed 03/12/92

Volatile Organic Constituent	<u>µg/l</u>	Volatile Organic Constituent	<u>µg/l</u>
		4.0.01.11	
Benzene	< 0.50	1,3-Dichloropropane	< 1.0
Bromobenzene	< 1.0	2,2-Dichloropropane	< 1.0
Bromochloromethane	< 1.0	1,1-Dichloropropene	< 1.0
Bromodichloromethane	< 1.0	cis-1,3-Dichloropropene	< 1.0
Bromoform	< 1.0	trans-1,3-Dichloropropene	< 1.0
Bromomethane	< 1.0	Ethylbenzene	< 1.0
n-Butylbenzene	< 1.0	Hexachlorobutadiene	< 1.0
sec-Butylbenzene	< 1.0	Isopropylbenzene	< 1.0
_tert-Butylbenzene	< 1.0	p-isopropyitoluene	< 1.0
Carbon tetrachloride	< 0.50	Methylene chloride	< 1.0
Chlorobenzene	< 1.0	Naphthalene	< 1.0
Chloroethane	< 1.0	n-Propylbenzene	< 1.0
Chloroform	< 1.0	Styrene	< 1.0
Chloromethane	< 1.0	1,1,1,2-Tetrachloroethane	< 1.0
2-Chlorotoluene	< 1.0	1,1,2,2-Tetrachloroethane	< 1.0
4-Chlorotoluene	< 1.0	Tetrachloroethene	21
1,2-Dibromo-3-chloropropane	< 1.0	Toluene	<1.0
Dibromochloromethane	< 1.0	1,2,3-Trichlorobenzene	< 1.0
1,2-Dibromoethane	< 1.0	1,2,4-Trichlorobenzene	< 1.0
Dibromomethane	< 1.0	1,1,1-Trichloroethane	< 0.50
1,2-Dichlorobenzene	< 1.0	1,1,2-Trichloroethane	< 1.0
1,3-Dichlorobenzene	< 1.0	Trichloroethene	0.67
1,4-Dichlorobenzene	< 0.50	Trichlorofluoromethane	< 1.0
Dichlorodifluoromethane	< 1.0	1,2,3-Trichloropropane	< 1.0
_1,1-Dichloroethane	< 1.0	1,2,4-Trimethylbenzene	< 1.0
1,2-Dichloroethane	< 0.50	1,3,5-Trimethylbenzene	< 1.0
1,1-Dichloroethene	< 0.50	Vinyl chloride	< 0.50
cis-1,2-Dichloroethene	< 1.0	Xylenes	< 1.0
trans-1,2-Dichloroethene	< 1.0	,	١.٥
	· · · ·		· ·

REMARKS: Sample was properly preserved and in specified container. Sample was analyzed in accordance with EPA method 524.2.





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#### LABORATORY REPORT

DDRESS:

Envirocon, Inc. P.O. Box 1154

Livingston, MT 59047

LAB NO.: 92-8650 DATE: 03/26/92 rh

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ENVIROCON, INC.

#### WATER ANALYSIS

Livingston/BN 140101-1036 Sampled 02/28/92 Submitted 03/02/92 Analyzed 03/13/92

Volatile Organic Constituent	<u>µg/l</u>	Volatile Organic Constituent	<u>µg/l</u>
Benzene	< 0.50	1,3-Dichloropropane	< 1.0
Bromobenzene	< 1.0	2,2-Dichloropropane	< 1.0
Bromochloromethane	< 1.0	1,1-Dichloropropene	< 1.0
Bromodichloromethane	< 1.0	cis-1,3-Dichloropropene	<1.0
-3romoform	< 1.0	trans-1,3-Dichloropropene	< 1.0
Bromomethane	< 1.0	Ethylbenzene	< 1.0
n-Butylbenzene	< 1.0	Hexachlorobutadiene	< 1.0
ec-Butylbenzene	< 1.0	Isopropylbenzene	< 1.0
tert-Butylbenzene	< 1.0	p-Isopropyltoluene	< 1.0
arbon tetrachloride	< 0.50	Methylene chloride	< 1.0
hlorobenzene	< 1.0	Naphthalene	< 1.0
Chloroethane	< 1.0	n-Propylbenzene	< 1.0
Chloroform	< 1.0	Styrene	< 1.0
thloromethane	< 1.0	1,1,1,2-Tetrachloroethane	< 1.0
2-Chlorotoluene	< 1.0	1,1,2,2-Tetrachloroethane	< 1.0
-4-Chlorotoluene	< 1.0	Tetrachloroethene	21
2-Dibromo-3-chloropropane	< 1.0	Toluene	< 1.0
Dibromochloromethane	< 1.0	1,2,3-Trichlorobenzene	< 1.0
,2-Dibromoethane	< 1.0	1,2,4-Trichlorobenzene	< 1.0
pibromomethane	< 1.0	1,1,1-Trichloroethane	< 0.50
,2-Dichlorobenzene	< 1.0	1,1,2-Trichloroethane	< 1.0
_1,3-Dichlorobenzene	< 1.0	Trichloroethene	0.64
,4-Dichlorobenzene	< 0.50	Trichlorofluoromethane	< 1.0
bichlorodifluoromethane	< 1.0	1,2,3-Trichloropropane	< 1.0
_1,1-Dichloroethane	< 1.0	1,2,4-Trimethylbenzene	< 1.0
,2-Dichloroethane	< 0.50	1,3,5-Trimethylbenzene	< 1.0
,1-Dichloroethene	< 0.50	Vinyl chloride	< 0.50
cis-1,2-Dichloroethene	< 1.0	Xylenes	< 1.0
rans-1,2-Dichloroethene	< 1.0		/
,2-Dichloropropane	< 1.0		
· ·			

REMARKS: Sample was properly preserved and in specified container. Sample was analyzed in accordance with EPA method 524.2.





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#### LABORATORY REPORT

ADDRESS:

,2-Dichloroethane

1,1-Dichloroethene

cis-1,2-Dichloroethene

,2-Dichloropropane

rans-1,2-Dichloroethene

Envirocon, Inc. P.O. Box 1154

Livingston, MT 59047

LAB NO.: 92-8650 dup

DATE: 03/26/92 rh

RECEIVED

MAR 3 0 1992 ENVIROCON, Inc.

< 1.0

< 0.50

< 1.0

Living Mr.

## QUALITY ASSURANCE | DUPLICATE ANALYSIS

Livingston/BN 140101-1036 Sampled 02/28/92 Submitted 03/02/92 Analyzed 03/13/92

Volatile Organic Constituent	<u>µg/l</u>	Volatile Organic Constituent	<u>µg/l</u>
Benzene	< 0.50	1,3-Dichloropropane	< 1.0
Bromobenzene	< 1.0	2,2-Dichloropropane	< 1.0
Bromochloromethane	< 1.0	1,1-Dichloropropene	< 1.0
Bromodichloromethane	< 1.0	cis-1,3-Dichloropropene	< 1.0
Bromoform	< 1.0	trans-1,3-Dichloropropene	< 1.0
Bromomethane	< 1.0	Ethylbenzene	< 1.0
h-Butylbenzene	< 1.0	Hexachlorobutadiene	< 1.0
sec-Butylbenzene	< 1.0	Isopropylbenzene	< 1.0
tert-Butylbenzene	< 1.0	p-Isopropyltoluene	< 1.0
Carbon tetrachloride	< 0.50	Methylene chloride	< 1.0
Chlorobenzene	< 1.0	Naphthalene	< 1.0
Chloroethane	< 1.0	n-Propylbenzene	< 1.0
Chloroform	< 1.0	Styrene	< 1.0
Chloromethane	< 1.0	1,1,1,2-Tetrachloroethane	< 1.0
2-Chlorotoluene	< 1.0	1,1,2,2-Tetrachloroethane	< 1.0
4-Chlorotoluene	< 1.0	Tetrachloroethene	21
1,2-Dibromo-3-chloropropane	< 1.0	Toluene	< 1.0
Dibromochloromethane	< 1.0	1,2,3-Trichlorobenzene	< 1.0
_1,2-Dibromoethane	< 1.0	1,2,4-Trichlorobenzene	< 1.0
Dibromomethane	< 1.0	1,1,1-Trichloroethane	< 0.50
,2-Dichlorobenzene	< 1.0	1,1,2-Trichloroethane	< 1.0
1,3-Dichlorobenzene	< 1.0	Trichloroethene	0.63
,4-Dichlorobenzene	< 0.50	Trichlorofluoromethane	< 1.0
bichlorodifluoromethane	< 1.0	1,2,3-Trichloropropane	< 1.0
1,1-Dichloroethane	< 1.0	1,2,4-Trimethylbenzene	< 1.0
	· · · <del>-</del>		

REMARKS: Sample was properly preserved and in specified container. Sample was analyzed in accordance with EPA method 524.2.

1,3,5-Trimethylbenzene

Vinyl chloride

**Xylenes** 

< 0.50

< 0.50

< 1.0

< 1.0

< 1.0





m3/30/9

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#### LABORATORY REPORT

TO: ADDRESS: Envirocon, Inc. P.O. Box 1154

Livingston, MT 59047

LAB NO.: 92-8651 DATE: 03/26/92 rh

#### WATER ANALYSIS

Livingston/BN 140101-1038 Sampled 02/28/92 Submitted 03/02/92 Analyzed 03/12/92 39-10

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MAR 3 0 1992

ENVIROCON INC.

Volatile Organic Constituent	<u>µg/l</u>	Volatile Organic Constituent	<u>µg/l</u>
Benzene	< 0.50	1,3-Dichloropropane	< 1.0
Bromobenzene	< 1.0	2,2-Dichloropropane	< 1.0
Bromochloromethane	< 1.0	1,1-Dichloropropene	< 1.0
Bromodichloromethane	< 1.0	cis-1,3-Dichloropropene	< 1.0
Bromoform	< 1.0	trans-1,3-Dichloropropene	< 1.0
Bromomethane	< 1.0	Ethylbenzene	< 1.0
n-Butylbenzene	< 1.0	Hexachlorobutadiene	< 1.0
sec-Butylbenzene	< 1.0	Isopropylbenzene	< 1.0
tert-Butylbenzene	< 1.0	p-Isopropyltoluene	< 1.0
Carbon tetrachloride	< 0.50	Methylene chloride	< 1.0
Chlorobenzene	< 1.0	Naphthalene	< 1.0
Chloroethane	< 1.0	n-Propylbenzene	< 1.0
Chloroform	< 1.0	Styrene	< 1.0
Chloromethane	< 1.0	1,1,1,2-Tetrachloroethane	< 1.0
2-Chlorotoluene	< 1.0	1,1,2,2-Tetrachloroethane	< 1.0
-4-Chlorotoluene	< 1.0	Tetrachloroethene	116 *
1,2-Dibromo-3-chloropropane	< 1.0	Toluene	< 1.0
Dibromochloromethane	< 1.0	1,2,3-Trichlorobenzene	< 1.0
_1,2-Dibromoethane	< 1.0	1,2,4-Trichlorobenzene	< 1.0
Dibromomethane	< 1.0	1,1,1-Trichloroethane	< 0.50
1,2-Dichlorobenzene	< 1.0	1,1,2-Trichloroethane	<1.0
1,3-Dichlorobenzene	< 1.0	Trichloroethene	7.8
4-Dichlorobenzene,	< 0.50	Trichlorofluoromethane	< 1.0
Dichlorodifluoromethane	< 1.0	1,2,3-Trichloropropane	< 1.0
_1,1-Dichloroethane	< 1.0	1,2,4-Trimethylbenzene	< 1.0
,2-Dichloroethane	< 0.50	1,3,5-Trimethylbenzene	< 1.0
1,1-Dichloroethene	< 0.50	Vinyl chloride	< 0.50
cis-1,2-Dichloroethene	20	Xylenes	< 1.0
rans-1,2-Dichloroethene	< 1.0		V
,2-Dichloropropane	< 1.0		·

REMARKS: Sample was properly preserved and in specified container. Sample was analyzed in accordance with method 524.2.

Value derived from a 10x dilution of the sample.





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LABORATORY REPORT

ADDRESS:

Envirocon, Inc. P.O. Box 1154

Livingston, MT 59047

LAB NO.: 92-8652 DATE: 03/26/92 rh

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WAR 3 0 1992

WATER ANALYSIS

Livingston/BN 140101-1039 Sampled 02/28/92 Submitted 03/02/92 Analyzed 03/12/92

#8

ENVIROCON INC.

Volatile Organic Constituent	<u>µg/l</u>	Volatile Organic Constituent	<u>µg/l</u>
Benzene	< 0.50	1,3-Dichloropropane	< 1.0
Bromobenzene	< 1.0	2,2-Dichloropropane	< 1.0
_Bromochloromethane	< 1.0	1,1-Dichloropropene	< 1.0
Bromodichloromethane	< 1.0	cis-1,3-Dichloropropene	< 1.0
Bromoform	< 1.0	trans-1,3-Dichloropropene	<1.0
Bromomethane	< 1.0	Ethylbenzene	< 1.0
h-Butylbenzene	< 1.0	Hexachlorobutadiene	< 1.0
-sec-Butylbenzene	< 1.0	isopropylbenzene	< 1.0
tert-Butylbenzene	< 1.0	p-Isopropyltoluene	< 1.0
Carbon tetrachloride	< 0.50	Methylene chloride	< 1.0
Chlorobenzene	< 1.0	Naphthalene	<1.0
Chloroethane	< 1.0	n-Propylbenzene	< 1.0
Phloroform	< 1.0	Styrene	< 1.0
Chloromethane	< 1.0	1,1,1,2-Tetrachloroethane	< 1.0
2-Chlorotoluene	< 1.0	1,1,2,2-Tetrachloroethane	< 1.0
-4-Chlorotoluene	< 1.0	Tetrachloroethene	79 *
,2-Dibromo-3-chloropropane	< 1.0	Toluene	< 1.0
Dibromochloromethane	< 1.0	1,2,3-Trichlorobenzene	< 1.0
, 2-Dibromoethane	< 1.0	1,2,4-Trichlorobenzene	< 1.0
pibromomethane	< 1.0	1,1,1-Trichloroethane	< 0.50
1,2-Dichlorobenzene	< 1.0	1,1,2-Trichloroethane	< 1.0
	< 1.0	Trichloroethene	3.5
,4-Dichlorobenzene	< 0.50	Trichlorofluoromethane	< 1.0
Dichlorodifluoromethane	< 1.0	1,2,3-Trichloropropane	< 1.0
,1-Dichloroethane	< 1.0	1,2,4-Trimethylbenzene	< 1.0
,2-Dichloroethane	< 0.50	1,3,5-Trimethylbenzene	< 1.0
,1-Dichloroethene	< 0.50	Vinyl chloride	< 0.50
cis-1,2-Dichloroethene	4.4	Xylenes	< 1.0
rans-1,2-Dichloroethene	< 1.0		_
,2-Dichloropropane	< 1.0		~

REMARKS: Sample was properly preserved and in specified container. Sample was analyzed in accordance with EPA method 524.2.

Value derived from a 10x dilution of the sample.





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#### LABORATORY REPORT

TO: ADDRESS:

Envirocon, Inc. P.O. Box 1154

Livingston, MT 59047

LAB NO.: 92-8647-52

**DATE:** 03/26/92 rh

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MAR 3 0 1992

ENVIROCON, Inc.

#### WATER ANALYSIS

Livingston/BN Sampled 02/28/92 Submitted 03/02/92 Analyzed 03/03/92

Lab No.	Identification		Total Petroleum Hydrocarbons, mg/l (ppm)
92-8647	140101-1033	89-1	<0.1
92-8648	140101-1034	#3	0.3
92-8649	140101-1035	89-6	<0.1
92-8650	140101-1036	Ring of 89-6	<0.1
92-8651	140101-1038	89-10	< 0.1
92-8652	140101-1039	#8	2.5
	Water Blank		< 0.1
			$\vee$

Analysis done by EPA Method 418.1.





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ENVIROCON, INC.

March 25, 1992

Envirocon, Inc. P.O. Box 1154 Livingston, MT 59047

On March 4, 1992 these samples, represented by our laboratory numbers 92-8813 to 92-8817, were submitted to our laboratory for analysis.

The test results and quality assurance were reviewed and approved by the undersigned.

Reviewed by: Joe Starles





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#### LABORATORY REPORT

TO: DDRESS: Envirocon, Inc. P.O. Box 1154

Livingston, MT 59047

LAB NO.:

92-8813

DATE: 0

03/25/92 crp

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MAR 2 6 1992

ENVIROCON, Inc.

#### WATER ANALYSIS

Livingston/BN 140101-1041 Sampled 03/03/92 @ 0915 Submitted 03/04/92

Analyzed 03/16/92

Volatile Organic Constituent	<u>µg/l</u>	Volatile Organic Constituent	<u>µq/l</u>
<b>e</b> nzene	< 0.50	1,3-Dichloropropane	< 1.0
Bromobenzene	< 1.0	2,2-Dichloropropane .	< 1.0
Bromochloromethane	< 1.0	1,1-Dichloropropene	< 1.0
romodichloromethane	< 1.0	cis-1,3-Dichloropropene	< 1.0
Bromoform	< 1.0	trans-1,3-Dichloropropene	< 1.0
Bromomethane	< 1.0	Ethylbenzene	< 1.0
ii-Butylbenzene	< 1.0	Hexachlorobutadiene	< 1.0
sec-Butylbenzene	< 1.0	Isopropylbenzene	< 1.0
_tert-Butylbenzene	< 1.0	p-Isopropyltoluene	< 1.0
Carbon tetrachloride	< 0.50	Methylene chloride	< 1.0
<b>h</b> lorobenze <b>ne</b>	< 1.0	Naphthalene	< 1.0
Chloroethane	< 1.0	n-Propylbenzene	< 1.0
hloroform	< 1.0	Styrene	< 1.0
hloromethane	< 1.0	1,1,1,2-Tetrachloroethane	< 1.0
2-Chlorotoluene	< 1.0	1,1,2,2-Tetrachloroethane	< 1.0
-Chlorotoluene	< 1.0	Tetrachloroethene	< 0.50
📕 ,2-Dibromo-3-chloropropane	< 1.0	Toluene	< 1.0
Dibromochloromethane	< 1.0	1,2,3-Trichlorobenzene	< 1.0
🚅 ,2-Dibromoethane	< 1.0	1,2,4-Trichlorobenzene	< 1.0
ibromomethane	< 1.0	1,1,1-Trichloroethane	< 0.50
1,2-Dichlorobenzene	< 1.0	1,1,2-Trichloroethane	< 1.0
→ ,3-Dichlorobenzene	< 1.0	Trichloroethene	< 0.50
4-Dichlorobenzene	< 0.50	Trichlorofluoromethane	< 1.0
Dichlorodifluoromethane	< 1.0	1,2,3-Trichloropropane	< 1.0
	< 1.0	1,2,4-Trimethylbenzene	< 1.0
,2-Dichloroethane	< 0.50	1,3,5-Trimethylbenzene	< 1.0
1,1-Dichloroethene	< 0.50	Vinyl chloride	< 0.50
cis-1,2-Dichloroethene	< 1.0	Xylenes	< 1.0
rans-1,2-Dichloroethene	< 1.0	.,	
.2-Dichloropropane	< 1.0		•

EMARKS: Sample was properly preserved and in specified container. Sample was analyzed in accordance with EPA method 524.2.





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LABORATORY REPORT

TO: ADDRESS:

Envirocon, Inc. P.O. Box 1154

Livingston, MT 59047

LAB NO.:

92-8814

DATE:

03/25/92 crp

WATER ANALYSIS

Livingston/BN 140101-1042

Sampled 03/03/92 @ 1045 Submitted 03/04/92 Analyzed 03/16/92 RECEIVED

MAR 2 6 1992

ENVIROCON, Inc. Livingston, Mt.

Volatile Organic Constituent	<u>µg/l</u>	Volatile Organic Constituent	<u>µg/l</u>
Benzen <b>e</b>	< 0.50	1,3-Dichloropropane	< 1.0
Bromobenzene	< 1.0	2,2-Dichloropropane	< 1.0
Bromochloromethane	< 1.0	1,1-Dichloropropene	< 1.0
Bromodichloromethane	< 1.0	cis-1,3-Dichloropropene	< 1.0
Bromoform	< 1.0	trans-1,3-Dichloropropene	< 1.0
Bromomethane	< 1.0	Ethylbenzene	< 1.0
n-Butylbenzene	< 1.0	Hexachlorobutadiene	< 1.0
sec-Butylbenzene	< 1.0	Isopropylbenzene	< 1.0
tert-Butylbenzene	< 1.0	p-Isopropyltoluene	< 1.0
Carbon tetrachloride	< 0.50	Methylene chloride	< 1.0
Chlorobenzene	< 1.0	Naphthalene	< 1.0
Chloroethane	< 1.0	n-Propylbenzene	< 1.0
Chloroform	< 1.0	Styrene	< 1.0
Chloromethane	< 1.0	1,1,1,2-Tetrachloroethane	< 1.0
2-Chlorotoluene	< 1.0	1,1,2,2-Tetrachloroethane	< 1.0
4-Chlorotoluene	< 1.0	Tetrachloroethene	20
1,2-Dibromo-3-chloropropane	< 1.0	Toluene	< 1.0
Dibromochloromethane	< 1.0	1,2,3-Trichlorobenzene	< 1.0
1,2-Dibromoethane	< 1.0	1,2,4-Trichlorobenzene	< 1.0
Dibromomethane	< 1.0	1,1,1-Trichloroethane	0.72
1,2-Dichlorobenzene	< 1.0	1,1,2-Trichloroethane	< 1.0
1,3-Dichlorobenzene	< 1.0	Trichloroethene	1.9
1,4-Dichlorobenzene	< 0.50	Trichlorofluoromethane	< 1.0
Dichlorodifluoromethane	< 1.0	1,2,3-Trichloropropane	< 1.0
1,1-Dichloroethane	< 1.0	1,2,4-Trimethylbenzene	< 1.0
1,2-Dichloroethane	< 0.50	1,3,5-Trimethylbenzene	< 1.0
1,1-Dichloroethene	< 0.50	Vinyl chloride	< 0.50
cis-1,2-Dichloroethene	< 1.0	Xylenes	< 1.0
trans-1,2-Dichloroethene	< 1.0	·	L
1,2-Dichloropropane	< 1.0		•

REMARKS: Sample was properly preserved and in specified container. Sample was analyzed in accordance with EPA method 524.2.





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#### LABORATORY REPORT

TO: ADDRESS: Envirocon, Inc. P.O. Box 1154 Livingston, MT 59047 LAB NO.:

92-8815

DATE:

03/25/92 crp

RECEIVED

WATER ANALYSIS

Livingston/BN 140101-1043 92-1

ENVIROCON, Inc. Livingston, Mt.

MAR 2 6 1992

Sampled 03/03/92 @ 1205 Submitted 03/04/92 Analyzed 03/16/92

<u>µg/l</u>	Volatile Organic Constituent	<u>µ</u> g/l
< 0.50	1,3-Dichloropropane	< 1.0
< 1.0	2,2-Dichloropropane	< 1.0
< 1.0		< 1.0
< 1.0		< 1.0
< 1.0		< 1.0
< 1.0		< 1.0
< 1.0		< 1.0
< 1.0		< 1.0
< 1.0	• •	< 1.0
< 0.50		< 1.0
< 1.0		< 1.0
< 1.0	· ·	< 1.0
< 1.0		< 1.0
< 1.0	•	< 1.0
< 1.0		< 1.0
< 1.0		850 *
< 1.0		< 1.0
< 1.0		< 1.0
< 1.0		< 1.0
< 1.0		< 0.50
< 1.0		< 1.0
< 1.0		0.76
< 0.50		< 1.0
< 1.0		< 1.0
< 1.0		< 1.0
< 0.50		< 1.0
< 0.50	Vinyl chloride	< 0.50
4.5		< 1.0
	,	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \
< 1.0		•
	<0.50 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.	<pre>&lt;0.50     1,3-Dichloropropane &lt;1.0     2,2-Dichloropropane &lt;1.0     1,1-Dichloropropene &lt;1.0     cis-1,3-Dichloropropene &lt;1.0     trans-1,3-Dichloropropene &lt;1.0     Ethylbenzene &lt;1.0     Hexachlorobutadiene &lt;1.0     Isopropylbenzene &lt;1.0     Isopropyltoluene &lt;0.50     Methylene chloride &lt;1.0     Naphthalene &lt;1.0     Naphthalene &lt;1.0     Styrene &lt;1.0     Styrene &lt;1.0     1,1,1,2-Tetrachloroethane &lt;1.0     Tetrachloroethene &lt;1.0     Toluene &lt;1.0     Toluene &lt;1.0     1,2,3-Trichlorobenzene &lt;1.0     1,2,4-Trichloroethane &lt;1.0     1,1,1-Trichloroethane &lt;1.0     1,1,1-Trichloroethane &lt;1.0     1,2,4-Trichloroethane &lt;1.0     1,2,3-Trichloroethane &lt;1.0     1,2,3-Trichloropropane &lt;1.0     1,2,3-Trichloropropane &lt;1.0     1,2,3-Trichloropropane &lt;1.0     1,2,3-Trimethylbenzene &lt;0.50     Vinyl chloride &lt;0.50</pre>

Value derived from a 100x dilution.

REMARKS: Sample was properly preserved and in specified container. Sample was analyzed in accordance with EPA method 524.2.





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#### LABORATORY REPORT

TO: ADDRESS: Envirocon, Inc. P.O. Box 1154

Livingston, MT 59047

LAB NO .:

DATE:

92-8816

03/25/92 crp

WATER ANALYSIS

Livingston/BN 140101-1044

Bug 92-1 Sampled 03/03/92 @ 1210 Submitted 03/04/92 Analyzed 03/16/92

RECEIVED

MAR 2 6 1992

ENVIROCON, Inc. Thingston, W.

Volatile Organic Constituent	<u>µ</u> g/l	Volatile Organic Constituent	<u>µg/l</u>
Benzene	< 0.50	1,3-Dichloropropane	< 1.0
Bromobenzene	< 1.0	2,2-Dichloropropane	< 1.0
Bromochloromethane	< 1.0	1,1-Dichloropropene	< 1.0
Bromodichloromethane	< 1.0	cis-1,3-Dichloropropene	< 1.0
Bromoform	< 1.0	trans-1,3-Dichloropropene	< 1.0
Bromomethane	< 1.0	Ethylbenzene	< 1.0
n-Butylbenzene	< 1.0	Hexachlorobutadiene	< 1.0
sec-Butylbenzene	< 1.0	Isopropylbenzene	< 1.0
tert-Butylbenzene	< 1.0	p-Isopropyltoluene	< 1.0
Carbon tetrachloride	< 0.50	Methylene chloride	< 1.0
Chlorobenzene	< 1.0	Naphthalene	< 1.0
Chloroethane	< 1.0	n-Propylbenzene	< 1.0
Chloroform	< 1.0	Styrene	< 1.0
Chloromethane	< 1.0	1,1,1,2-Tetrachloroethane	< 1.0
2-Chlorotoluene	< 1.0	1,1,2,2-Tetrachloroethane	< 1.0
_4-Chlorotoluene	< 1.0	Tetrachloroethene	800 *
1,2-Dibromo-3-chloropropane	< 1.0	Toluene	< 1.0
Dibromochloromethane	< 1.0	1,2,3-Trichlorobenzene	< 1.0
_1,2-Dibromoethane	< 1.0	1,2,4-Trichlorobenzene	< 1.0
Dibromomethane	< 1.0	1,1,1-Trichloroethane	< 0.50
4,2-Dichlorobenzene	< 1.0	1,1,2-Trichloroethane	< 1.0
1,3-Dichlorobenzene	< 1.0	Trichloroethene	0.66
,4-Dichlorobenzene	< 0.50	Trichlorofluoromethane	< 1.0
bichlorodifluoromethane	< 1.0	1,2,3-Trichloropropane	< 1.0
1,1-Dichloroethane	< 1.0	1,2,4-Trimethylbenzene	< 1.0
,2-Dichloroethane	< 0.50	1,3,5-Trimethylbenzene	< 1.0
1.1-Dichloroethene	< 0.50	Vinyl chloride	< 0.50
cis-1,2-Dichloroethene	4.5	Xylenes	< 1.0
rans-1,2-Dichloroethene	< 1.0		/
2 Diablesses			

Value derived from a 100x dilution.

1,2-Dichloropropane

REMARKS: Sample was properly preserved and in specified container. Sample was analyzed in accordance with EPA method 524.2.

< 1.0





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#### LABORATORY REPORT

TO: ADDRESS: Envirocon, Inc P.O. Box 1154

Livingston, MT 59047

LAB NO.: 92-8813 -16

DATE: 03/25/92 crp

> RECEIVED MAR ? 6 1992

ENVIROCON, INC.

#### WATER ANALYSIS

Livingston/BN Sampled 03/03/92 Submitted 03/04/92 Analyzed 03/04/92

Lab No.	Identification		Total Petroleum <u>Hydrocarbons, mg/l (ppm)</u>
92-8813	140101-1041, Sampled @ 0915	LS-10	< 0.1
92-8814	140101-1042, Sampled @ 1045	89-7	< 0.1
92-8815	140101-1043, Sampled @ 1205		< 0.1
92-8816	140101-1 <b>0</b> 44, Sampled @ 1210	Dup of 92 -	<0.1
Blank	Method Blank	v	< 0.1

NOTE: Analysis done by EPA method 418.1.





## APPENDIX C MARCH LABORATORY ANALYSES

TO SECURITY AND ADDRESS.

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# DATA VALIDATION REPORT FOR GROUNDWATER ANALYSES LIVINGSTON RAIL YARD, LIVINGSTON, MONTANA MARCH 1992 MONTHLY SAMPLING ROUND

#### 1.0 INTRODUCTION

Data validation levels have been established for the sample round according to the criteria described in Appendix 1.A of the Remedial Investigation Report. The data validation levels and codes for the Livingston Rail Yard project are based on the U.S. Environmental Protection Agency Region VIII guidance, "Evaluation Criteria for Existing Data from CERCLA Study Areas", Revision 1, January 5, 1985.

Table 1 lists all of the sample station names, sample dates, Envirocon field identification number, laboratory identification number, analytical methods and number of analytes per analytical method for the March 1992 monthly sampling round.

Table 1: Groundwater medium analytical suites for samples collected on 03/31/92

					EPA Me	thods
Sample Sta	ation	Date	Envirocon ID#	Lab ID #	524.2	601
89-2	(PS)	03/31/92	140101-1051	92-11785	0	31
89-3	(PS)	03/31/92	140101-1050	92-11784	0	31
B STREET	(PS)	03/31/92	140101-1048	92-11786	58	0
LG-10	(PS)	03/31/92	140101-1049	92-11783	0	31

#### Explanation

(PS) - Primary Sample

(FD) - Field Duplicate

(LD) - Laboratory Duplicate

#### 2.0 EVALUATION OF BLANK ANALYSES

One trip blank was analyzed for this sampling round and no contaminants were found. Two laboratory blanks were analyzed for this sampling round and no contaminants were found. All the blank results are located at the end of this report.



#### 3.0 EVALUATION OF DUPLICATE ANALYSES

No field or laboratory duplicates were analyzed for this sample round.

#### 4.0 EVALUATION OF HOLDING TIMES

No holding times were exceeded for this sample round.

#### 5.0 EVALUATION OF MATRIX AND SURROGATE SPIKE RESULTS

Surrogate spike recoveries were within recovery limits. The U.S. Environmental Protection Agency quality control results were within the control limits. Surrogate spike and U.S. EPA quality control results are located at the end of this report.

#### 6.0 Validation Level Assignments

All analytical results are acceptable for quantitative data analysis for this sampling round.



#### Laboratory and Trip Blank Analytical Results

	LAB BLANK 1	LAB BLANK 2	TRIP BLANK 1
Chemical Parameter			03/31/92
Chemical Compound Class: Volatile Org	anic Compounds		
Benzene, ug/L		< 0.5	-
Bromobenzene, ug/L	-	< 1.0	-
Bromochloromethane, ug/L	-	< 1.0	-
Bromodichloromethane, ug/L	< 1.0	< 1.0	< 1.0
Bromoform, ug/L	< 1.0	< 1.0	< 1.0
Bromomethane, ug/L	< 1.0	< 1.0	< 1.0
n-Butylbenzene, ug/L	-	< 1.0	-
sec-Butylbenzene, ug/L	-	< 1.0	-
tert-Butylbenzene, ug/L	-	< 1.0	-
Carbon tetrachloride, ug/L	< 0.5	< 0.5	< 0.5
Chlorobenzene, ug/L	< 1.0	< 1.0	< 1.0
Chloroethane, ug/L	< 1.0	< 1.0	< 1.0
2-Chloroethyl vinyl ether, ug/L	< 1.0	-	< 1.0
Chloroform, ug/L	< 1.0	< 1.0 ·	< 1.0
Chloromethane, ug/L	< 1.0	< 1.0	< 1.0
2-Chlorotoluene, ug/L	< 1.0	< 1.0	< 1.0
4-Chlorotoluene, ug/L	•	< 1.0	-
Dibromochloromethane, ug/L	< 1.0	< 1.0	< 1.0
1,2-Dibromo-3-chloropropane, ug/L	•	< 1.0	-
1,2-Dibromoethane, ug/L	-	< 1.0	-
Dibromomethane, ug/L	-	< 1.0	-
1,2-Dichlorobenzene, ug/L	< 1.0	< 1.0	< 1.0
1,3-Dichlorobenzene, ug/L	< 1.0	< 1.0	< 1.0
1,4-Dichlorobenzene, ug/L	< 0.5	< 0.5	< 0.5
Dichlorodifluoromethane, ug/L	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane, ug/L	< 1.0	< 1.0	< 1.0
1,2-Dichloroethane, ug/L	< 0.5	< 0.5	< 0.5
1,1-Dichloroethene, ug/L	< 0.5	< 0.5	< 0.5
cis-1,2-Dichloroethene, ug/L	< 1.0	< 1.0	< 1.0
trans-1,2-Dichloroethene, ug/L	< 1.0	< 1.0	< 1.0
1,2-Dichloropropane, ug/L	< 1.0	< 1.0	< 1.0
1,3-Dichloropropane, ug/L	-	< 1.0	-
2,2-Dichloropropane, ug/L	•	< 1.0	-
1,1-Dichloropropene, ug/L	-	< 1.0	-
cis-1,3-Dichloropropene, ug/L	< 1.0	< 1.0	< 1.0
trans-1,3-Dichloropropene, ug/L	< 1.0	< 1.0	< 1.0
Ethylbenzene, ug/L	•	< 1.0	-
Hexachlorobutadiene, ug/L	-	< 1.0	-
Isopropylbenzene, ug/L	•	< 1.0	-
p-Isopropyltoluene, ug/L	•	< 1.0	•
Methylene chloride, ug/L	< 1.0	< 1.0	< 1.0
Naphthalene, ug/L	•	< 1.0	•
n-Propylbenzene, ug/L	-	< 1.0	-
Styrene, ug/L	-	< 1.0	-
1,1,1,2-Tetrachloroethane, ug/L		< 1.0	-
1,1,2,2-Tetrachloroethane, ug/L	< 1.0	< 1.0	< 1.0
Tetrachloroethene, ug/L	< 0.5	< 0.5	< 0.5
·			



#### Laboratory and Trip Blank Analytical Results

	LAB BLANK 1	LAB BLANK 2	TRIP BLANK
Chemical Parameter			03/31/92
Chemical Compound Class: Volatile Org	anic Compounds		
Toluene, ug/L		< 1.0	-
1,2,3-Trichlorobenzene, ug/L	-	< 1.0	-
1,2,4-Trichlorobenzene, ug/L	-	< 1.0	•
1,1,1-Trichloroethane, ug/L	< 0.5	< 0.5	< 0.5
1,1,2-Trichloroethane, ug/L	< 1.0	< 1.0	< 1.0
Trichloroethene, ug/L	< 0.5	< 0.5	< 0.5
Trichlorofluoromethane, ug/L	< 1.0	< 1.0	< 1.0
1,2,3-Trichloropropane, ug/L	•	< 1.0	-
1,2,4-Trimethylbenzene, ug/L	-	< 1.0	-
1,3,5-Trimethylbenzene, ug/L	•	< 1.0	-
Vinyl chloride, ug/L	< 0.5	< 0.5	< 0.5
Xylenes, total, ug/L	-	< 1.0	s -

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#### LABORATORY REPORT

TO: ADDRESS: Envirocon, Inc. P.O. Box 1154

Livingston, MT 59047

LAB NO.: 92-11782-85

**DATE:** 04/23/92 rh

#### WATER VOLATILE SURROGATE RECOVERY

10 μg/l Surrogate Standard Spike

	••••	% Recovery			
SAMPLE NO.	S1 (TOL)#	S2 (BFB)#	S3 (DCE)#		
92-11782	103	93	92		
92-11783	110	93	94		
92-11784	114	102	92		
92-11785	114	91	98		

QC LIMITS, % Recovery S1 (TOL) = Toluene-d880-120 S2 (BFB) = Bromofluorobenzene 80-120 S3 (DCE) = 1,2-Dichloroethane-d480-120

#Column to be used to flag recovery values with an asterisk.

\* Values outside of contract required QC limits.





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TO: ADDRESS: Envirocon, Inc. P.O. Box 1154

Livingston, MT 59047

LAB NO.: 92-11786

**DATE:** 04/23/92 rh

#### WATER VOLATILE SURROGATE RECOVERY

10 μg/l Surrogate Standard Spike

	% Recovery			
	<b>S1</b>	<b>S2</b>	<b>S3</b>	
SAMPLE NO.	<u>(TQL)#</u>	(BFB)#	(DCE)#	
92-11786	113	97	100	

QC LIMITS, % Recovery S1 (TOL) = Toluene-d880-120 S2 (BFB) = Bromofluorobenzene 80-120 S3 (DCE) = 1,2-Dichloroethane-d480-120

#Column to be used to flag recovery values with an asterisk.

\* Values outside of contract required QC limits.





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#### LABORATORY REPORT

TO: ADDRESS: Envirocon, Inc. P.O. Box 1154

Livingston, MT 59047

LAB NO.: 92-11782-86

**DATE:** 04/23/92 rh

## EPA VOLATILES QUALITY CONTROL SAMPLE

Volatile Organic Contaminants Mix 1

This EPA Quality Control sample was analyzed with your Lab No.s 92-11782-11786 with the following results:

	Spike		Range
<u>Parameter</u>	Amount, µg/l	P(%)	for P(%)
Carbon Tetrachloride	5.0	135	60-140
Chlorobenzene	5.0	102	60-140
1,3-Dichlorobenzene	5.0	123	60-140
1,4-Dichlorobenzene	5.0	112	60-140
1,2-Dichloroethane	5.0	90	60-140
1,1-Dichloroethene	5.0	98	60-140
trans-1,2-Dichloroethene	5.0	104	60-140
1,2-Dichloropropane	5.0	112	60-140
Ethylbenzene	5.0	126	60-140
Tetrachloroethene	5.0	116	60-140
1,1,2-Trichloroethane	5.0	92	60-140

P = Percent recovery measured.







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April 23, 1992

Envirocon, Inc. P.O. Box 1154 Livingston, MT 59047

On April 1, 1992, these samples, represented by our laboratory numbers 92-11782 to 92-11786 were submitted to our laboratory for analysis.

The test results and quality assurance were reviewed and approved by the undersigned.

Reviewed by:



P.O. BOX 30916 • 1107 SOUTH BROADWAY • BILLINGS, MT 59107-0916 • PHONE (406) 252-6325 FAX (406) 252-6069 • 1-800-735-4489

### LABORATORY REPORT

TO: ADDRESS:

Envirocon, Inc.

P.O. Box 1154

Livingston, MT 59047

**LAB NO.:** 92-11783

**DATE:** 04/23/92 rh

## WATER ANALYSIS

Livingston/BN 140101-1049 Sampled 03/31/92 Submitted 04/01/92

Analyzed 04/14/92

16-10

CONSTITUENT	<u>µg/l</u>
Purgeable Halocarbons (EPA Method 8260)	
Bromodichloromethane	< 1.0
Bromoform	< 1.0
Bromomethane	< 1.0
Carbon tetrachloride	< 0.50
Chlorobenzene	< 1.0
Chloroethane	< 1.0
2-Chloroethylvinyl ether	< 1.0
2-Chlorotoluene	< 1.0
Chloroform	< 1.0
Chloromethane	< 1.0
Dibromochloromethane	< 1.0
1,2-Dichlorobenzene	< 1.0
1,3-Dichlorobenzene	< 1.0
1,4-Dichlorobenzene	< 0.50
1,1-Dichloroethane	< 1.0
1,2-Dichloroethane	< 0.50
1,1-Dichloroethene	< 0.50
cis-1,2-Dichloroethene	< 1.0
trans-1,2-Dichloroethene	< 1.0
1,2-Dichloropropane	< 1.0
cis-1,3-Dichloropropene	< 1.0
trans-1,3-Dichloropropene	< 1.0
Methylene chloride	< 1.0
1,1,2,2-Tetrachloroethane	< 1.0
Tetrachloroethene	< 0.50
1,1,1-Trichloroethane	< 0.50
1,1,2-Trichloroethane	< 1.0
Trichloroethene	< 0.50
Trichlorofluoromethane	< 1.0
Vinyl chloride	< 0.50
Dichlorodifluoromethane	< 1.0

NOTE: This analysis is equivalent to EPA Methods 601/8010.





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#### LABORATORY REPORT

TO: ADDRESS:

Envirocon, Inc.

P.O. Box 1154

Livingston, MT 59047

LAB NO.: 92-11784

**DATE:** 04/23/92 rh

## WATER ANALYSIS

Livingston/BN 140101-1050 Sampled 03/31/92 Submitted 04/01/92 Analyzed 04/13/92

CONSTITUENT	<u>µg/l</u>
Purgeable Halocarbons (EPA Method 8260)	
Bromodichloromethane	< 1.0
Bromoform	< 1.0
Bromomethane	< 1.0
Carbon tetrachloride	< 0.50
Chlorobenzene	< 1.0
Chloroethane	< 1.0
2-Chloroethylvinyl ether	< 1.0
2-Chlorotoluene	< 1.0
Chloroform	< 1.0
Chloromethane	< 1.0
Dibromochloromethane	< 1.0
1,2-Dichlorobenzene	< 1.0
1,3-Dichlorobenzene	< 1.0
1,4-Dichlorobenzene	< 0.50
1,1-Dichloroethane	< 1.0
1,2-Dichloroethane	< 0.50
1,1-Dichloroethene	< 0.50
cis-1,2-Dichloroethene	< 1.0
trans-1,2-Dichloroethene	< 1.0
1,2-Dichloropropane	< 1.0
cis-1,3-Dichloropropene	< 1.0
trans-1,3-Dichloropropene	< 1.0
Methylene chloride	< 1.0
1,1,2,2-Tetrachloroethane	< 1.0
Tetrachloroethene	255 *
1,1,1-Trichloroethane	< 0.50
1,1,2-Trichloroethane	< 1.0
Trichloroethene	0.59
Trichlorofluoromethane	< 1.0
Vinyl chloride	< 0.50
Dichlorodifluoromethane	< 1.0
	1.

<sup>\*</sup> Value derived from a 25x dilution of the sample.

NOTE: This analysis is equivalent to EPA Methods 601/8010.





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#### LABORATORY REPORT

TO: ADDRESS:

Envirocon, Inc.

P.O. Box 1154 Livingston, MT 59047 LAB NO.: 92-11785

**DATE:** 04/23/92 rh

# WATER ANALYSIS

Livingston/BN 140101-1051

140101-1051 Sampled 03/31/92 Submitted 04/01/92 Analyzed 04/13/92

CONSTITUENT	ug/l
Purgeable Halocarbons (EPA Method 8260)	
Bromodichloromethane	< 1.0
Bromoform	< 1.0
Bromomethane	< 1.0
Carbon tetrachloride	< 0.50
Chlorobenzene	< 1.0
Chloroethane	< 1.0
2-Chloroethylvinyl ether	< 1.0
2-Chlorotoluene	< 1.0
Chloroform	< 1.0
Chloromethane	< 1.0
Dibromochloromethane	< 1.0
1,2-Dichlorobenzene	< 1.0
1,3-Dichlorobenzene	< 1.0
1,4-Dichlorobenzene	< 0.50
1,1-Dichloroethane	< 1.0
1,2-Dichloroethane	< 0.50
1,1-Dichloroethene	< 0.50
cis-1,2-Dichloroethene	< 1.0
trans-1,2-Dichloroethene	< 1.0
1,2-Dichloropropane	< 1.0
cis-1,3-Dichloropropene	< 1.0
trans-1,3-Dichloropropene	< 1.0
Methylene chloride	< 1.0
1,1,2,2-Tetrachloroethane	< 1.0
Tetrachloroethene	< 0.50
1,1,1-Trichloroethane	< 0.50
1,1,2-Trichloroethane	< 1.0
Trichloroethene	< 0.50
Trichlorofluoromethane	< 1.0
Vinyl chloride	< 0.50
Dichlorodifluoromethane	< 1.0

NOTE: This analysis is equivalent to EPA Methods 601/8010.





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### LABORATORY REPORT

ADDRESS:

Envirocon, Inc. P.O. Box 1154

Livingston, MT 59047

LAB NO.: 92-11786

DATE: 04/23/92 rh

WATER ANALYSIS

Livingston/BN 140101-1048 Sampled 03/31/92 Submitted 04/01/92 Analyzed 04/13/92

B-Treet

Volatile Organic Constituent	<u>//g/l</u>	Volatile Organic Constituent	<u>µg/l</u>
Benzene	< 0.50	1,3-Dichloropropane	< 1.0
Bromobenzene	< 1.0	2,2-Dichloropropane	< 1.0
Bromochloromethane	< 1.0	1,1-Dichloropropene	< 1.0
Bromodichloromethane	< 1.0	cis-1,3-Dichloropropene	< 1.0
Bromoform	< 1.0	trans-1,3-Dichloropropene	< 1.0
Bromomethane	< 1.0	Ethylbenzene	< 1.0
n-Butylbenzene	< 1.0	Hexachlorobutadiene	< 1.0
sec-Butylbenzene	< 1.0	Isopropylbenzene	< 1.0
tert-Butylbenzene	< 1.0	p-Isopropyltoluene	< 1.0
Carbon tetrachloride	< 0.50	Methylene chloride	< 1.0
Chlorobenzene	< 1.0	Naphthalene	< 1.0
Chloroethane	< 1.0	n-Propylbenzene	< 1.0
Chloroform	< 1.0	Styrene	< 1.0
Chloromethane	< 1.0	1,1,1,2-Tetrachloroethane	< 1.0
2-Chlorotoluene	< 1.0	1,1,2,2-Tetrachloroethane	< 1.0
4-Chlorotoluene	< 1.0	Tetrachloroethene	< 0.50
1,2-Dibromo-3-chloropropane	< 1.0	Toluene	< 1.0
Dibromochloromethane	< 1.0	1,2,3-Trichlorobenzene	< 1.0
1,2-Dibromoethane	< 1.0	1,2,4-Trichlorobenzene	< 1.0
Dibromomethane	< 1.0	1,1,1-Trichloroethane	< 0.50
1,2-Dichlorobenzene	< 1.0	1,1,2-Trichloroethane	< 1.0
-1,3-Dichlorobenzene	< 1.0	Trichloroethene	< 0.50
1,4-Dichlorobenzene	< 0.50	Trichlorofluoromethane	< 1.0
Dichlorodifluoromethane	< 1.0	1,2,3-Trichloropropane	< 1.0
1,1-Dichloroethane	< 1.0	1,2,4-Trimethylbenzene	< 1.0
1,2-Dichloroethane	< 0.50	1,3,5-Trimethylbenzene	< 1.0
1,1-Dichloroethene	< 0.50	Vinyl chloride	< 0.50
_cis-1,2-Dichloroethene	< 1.0	Xylenes	< 1.0
trans-1,2-Dichloroethene	< 1.0		V
1,2-Dichloropropane	< 1.0		

REMARKS: Sample was properly preserved and in specified container. Sample was analyzed in accordance with EPA method 524.2.





